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THE

WESTERN JOURNAL,

OF

AGRICULTURE, MANUFACTURES, MECHANIC ARTS,
INTERNAL IMPROVEMENT, COMMERCE,

AND

GENERAL LITERATURE.

Agriculture and the Mechanic Arts are the basis of Civilization.

M. TARVER & T. F. RISK,
EDITORS AND PROPRIETORS.

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ART. I.—LABOR SAVING MACHINERY.

We often hear the opinion advanced that the laboring classes have gained nothing by the inventions and improvements of the age; and it being assumed that the profits of labor saving machinery are monopolized by the capitalists, we are told that the condition of the operatives, and, indeed, of laborers in every department of industry, is daily becoming more dependent. To well informed minds it may appear unnecessary to waste time in exposing the errors of such opinions; but it must be borne in mind that a large portion of the community form their opinions upon a very imperfect knowledge of facts, while many adopt the opinions of others without pretending to enquire into either the facts or arguments on which they are based. In an economical point of view, it may not be very important whether the true state of this subject be fully comprehended by every individual or not; but it must afford a high degree of satisfaction to every one to know, that the social condition, at least in our own country, has been greatly improved within the present century; and, to comprehend the important truth that every discovery or improvement calculated to increase the volume of useful commodities, or to lessen the labor required for their production, is so much gained to the stock of human comforts. But apprehensions are entertained that the capitalists will get more than their just dividends. This is an idle fear; for such a result can never be realised in our country, except perhaps in extreme cases, so long as the principles of our political and civil institutions shall be sustained. By prohibiting the entailment of real estate, we have compelled the capitalists to become merchants and manufacturers. In the first of these pursuits they are eminently useful in facilitating the exchange of commodities between different countries; and, in the last, they furnish the

machinery which enables an individual to produce as much in one day, as he could have done in ten perhaps without it. It may be true that the operation pays the proprietor a large profit; but this is no disadvantage to the operative, nor, to the community at large, so long as he keeps his means employed. In this country there is a mutual dependence of the proprietor and operative on each other; but in our opinion the latter holds the advantage in his own hands; for if not sufficiently rewarded for his labor, he can seek and find employment in other pursuits — but if labor cannot be obtained at fair prices, the machinery must stop; and if not lost entirely, the investment ceases to be profitable during the time of its suspension.

In England, owing to the peculiar institutions and social condition of the people, labor is in the power of capital; and must so remain until important changes shall have been effected in the institutions of that country. There, the difficulty of changing from one employment to another, enables the proprietor to reduce wages to the lowest standard that will sustain the operative in a working condition; and consequently, all the benefits accruing from the discoveries and improvements of the age accrue to the capitalists; and hence, it is infered by many, that a similar relation between the proprietor and operative, must necessarily take place in this country. But, were there no other cause, the cheapness of land and the demand for agricultural labor, would afford protection to our operatives against the power of the capitalists for a long time to come.

But men say that, notwithstanding the invention of labor saving machinery, the use of steam as a motive power, and the thousand other discoveries and improvements of the age, they are still compelled to work. This is very true: and were it otherwise, we should regard these improvements as a curse rather than a blessing. But have not their means of comfort been enlarged? are they not better clothed, and, have not many items been added to their bills of fare? are not their children better educated, and their wives and daughters relieved from much drudgery? Let us see how the account stands: at the present time an individual receives about the same price in money for the labor of a day, or a week, as he did from thirty to forty years ago. The average prices of bread and meat, owing chiefly to improvements in agriculture, are lower now than they were then, by perhaps twenty per cent.: and owing to the introduction of steam as a motive power; the construction of railroads and canals, and, other improvements in commercial economy—sugar, coffee, and other articles of comfort, are obtained at less than one-half the prices which they cost the consumer, from the year 1810 to 1820. And owing to the improvement in machinery, cotton goods do not cost the consumer more than about one-fourth the price that

he paid for them during the period above mentioned. Woolen goods, also, of the qualities used by the laboring classes, have declined in price nearly or quite one-half, within fifteen years; while there is, perhaps, not a solitary article that was in common use twenty-five years ago, that has advanced in price.

For proof of these statements we refer to sundry communications from manufacturers and others, to the Secretary of the Treasury of the United States, which are published in his annual report for the year 1849. The most of these communications refer to prices ranging through a period of fifteen years only, but it is doubtless remembered by every individual of long experience, that prices had greatly declined during the period of twenty years preceding the year 1835.

At page 765 of the report to which we have referred, we find a statement of the average prices of sugars, American and foreign, for fifteen years, in Philadelphia, from prices current furnished by Isaac R. Davis, of Philadelphia, November, 1849. The average price per 100 pounds of New Orleans brown sugar for the first three years of this period ranged from 7.92 to 8.83: in the last three years of the period, the article had declined to an average of from 4.71 to 5.71, the quotation for 1845 being 8 1-4 to 9 1-4, and in 1849, 4 1-2 to 5 1-2 per lb. Refined sugar is quoted at 16 1-2 to 17 cents in 1835, and at 8 1-2 to 8 3-4 cents in 1849. During the same period of fifteen years, the decline in the price of coffee kept even pace with that of sugar: and from the gradual falling off throughout this period, we are induced to conclude that the decline in these articles may be regarded as permanent. It is not a little remarkable that the decline in the prices of cotton and woolen goods, bear a very near proportion to that which has taken place in sugar and coffee. The price of plain osnaburgs at Lowell, in 1835, is quoted at 14 1-2 cents; in 1849 an article of the same weight and quality is quoted at 7 1-2 cents. In 1835, stout brown sheetings, 37 inches wide, weight 2,85 yards to the pound, is quoted at 12 cents per yard; in 1849 the same article is quoted at 7 cents per yard. Shirtings, which sold at 10 cents in 1835, are quoted at 5 3-4 in 1849. Printed calicoes which averaged 17,83 cents per yard in 1835, were sold at the average rate of 9.28 cents per yard in 1849; and, calicoes, which averaged 8 86 cents per yard in 1835, average but 3.95 in 1849. Broad cloths, which averaged 4.12 per yard in 1835, declined to an average of 2 00 in 1849. Cassimeres, which averaged 1.87 1-2 to 2 00 per yard in 1835, fell to an average of one dollar per yard. Satinetts declined from 95 to 55 cents per yard, and Andover scarlet flannel declined from 38 to 21 cents during the same period.

Implements of husbandry, hard-ware, and indeed almost every manufactured article have also declined very much in

the last fifteen years; though the average decline in the price of these articles, is perhaps not so great as that of those we have enumerated.

This great decline in prices, is a gain to the laboring classes who constitute the great body of consumers in every country; and if, as we believe, the average money price of wages is as high now as it was in 1835, the profits of labor have increased at least fifty per cent. since that time; and we are warranted in the conclusion that according to the true principles of political economy, the wealth of the nation has been increased in an equal ratio, by the introduction and use of labor saving machinery, and the improvements which have been made in the useful arts.

When we contemplate the means by which this wealth has been obtained, we perceive that the source whence they were drawn may be regarded as inexhaustible; and we have no reason to doubt that each year will become more and more fruitful in works of art, until labor shall become what it was designed to be by the Creator, a pleasing exercise, imparting health to the body and gratification to the mind.

The community have not yet realized the extent of the benefits which have accrued from the discoveries and improvements of the age; for although these benefits increase with astonishing rapidity, yet, their developments are so gradual, and, withal, so universal, that they are scarcely observed except when we stop to compare the present with the past. We have been in the receipt of the profits of labor saving machinery, of steam, and many other improvements for years, and have been so ignorant of their extent, that we have felt little gratitude to those who have contributed so much to our comfort.

Had these profits accrued in the form of money—had wages been increased fifty per cent. by the combined action of a few chemists, plodding inventors and obscure mechanics, the thing could have been appreciated; and, these philanthropists would have been chronicled to future generations as the benefactors of their race. But like the dews of Heaven the fruits of their genius and benevolence have settled on us, and around us; and but few knew, or haply cared to know, whence they came.

The benefits which we have been considering, are obviously traceable to the intellectual faculties of man as their source, and afford a brilliant example of the superiority of his mental over his physical powers, and show, furthermore, when rightly considered, that the products of the mind cannot be monopolized, as can those that result from physical labor. Capitalists may monopolize labor saving machinery, or a railway, but as long as they keep them in profitable operation, the profits must be shared by the community in common — not in the form of dividends, it is true, but in a way far more beneficial; for each

individual possesses an inalienable interest in their benefits that no act of improvidence or folly can deprive him of, so long as he lives: and besides, the community have a strong guaranty that the operations will not be discontinued — for as soon as they stop they cease to be valuable to the proprietor.

We have taken this cursory view of the subject, for the purpose of calling attention to the great principles involved in labor saving machinery, and in works of internal improvement. Similar views may have occurred to others, but we are persuaded that the vast benefits accruing to the community from these sources are not generally appreciated, nor are they fully comprehended.

We invite those who entertain prejudices against manufacturing, to examine our facts in respect to the decline of prices; and, if they find them true, then let the man who labors for the support of a family, add up the bills that he has paid within the last year for sugar, coffee, clothing, and other articles of necessity and comfort, and ask himself whether he could have paid for all these things out of his daily earnings, in case their prices had been double that which they cost him. Having ascertained the amount of these bills, he will have discovered about the true extent of the profits accruing to him annually from the operations of machinery, and other improvements; and, if he can realize the true state of the case, we think he will experience a feeling of gratitude to those who have been instrumental in furnishing his family with comforts which they could not otherwise have enjoyed. And if he should fully comprehend the subject in all its bearings, he will cease to fear the encroachment of capitalists, so long as they invest their means in machinery and works of improvement.

Few subjects open a more beautiful field for reflection, than the one under consideration: we delight to trace out its bearings on the moral condition of the human family; to contemplate the era when the generous horse and the patient ox shall be set free from their labors; when the soil that now sustains them shall be appropriated to the support of intelligent and happy beings; when the conquest of the invisible powers of nature shall be complete, and mind assume its legitimate control over matter. Nor are these mere shadows flitting across the field of the imagination. Who does not contemplate these ends as attainable, must admit that the Creator enjoined upon man more than he was able to accomplish, when he charged him to multiply, and replenish the earth, and subdue it.

ART. II.—MEMOIR ON THE PHYSICS OF THE MISSISSIPPI RIVER.

BY CALEB G. FORSHEY, CIVIL ENGINEER.

1. *Rate of Fall.*—From the mouth of the river to a point 400 miles up its tortuous channel,* is a distance in a right line of only 220 miles. Its length is nearly double the right line distance. For 300 miles above New Orleans, it may, for practical purposes, be regarded as twice the distance of the right line.

2. The mean depth of the river at high water mark is not materially different at Natchez, from Carrollton, though near 300 miles apart. A section of the river at Carrollton, made at high water of 1849, is 168,260 square feet; and at Vidalia (opposite Natchez) the section is 167,000 feet. The bottom of an uniform channel 400 miles up, is about on a level with the bar at the south-west pass. The rate of fall is not uniform on the surface, but decreases in declivity towards the Gulf, giving a curve of inclination (probably parabolic) to which the Gulf level is a tangent, at the Balize. The mean rate of declination is 1.80 inch per mile, for the first hundred miles. 2.00 inches the second hundred, 2.30 inches for the third, and 2.57 inches for the fourth hundred miles. [See Diagram, A. 1. and 2.] Above this point I have no accurate data, but am inclined to think that the rate is not materially different, to the upper extreme of the delta above the mouth of the Ohio.—These data relate to high water.

3. The low water curve of declivity has a mean descent of .24 inch per mile for the first hundred miles, and .50, .83, 1.20 in. for the next consecutive three hundred miles; making the total difference of level 21.1 feet, from a point ten miles above Natchez, to the Balize.

4. These rates are not uniform for short distances, interrupted as the channel is by many short bends which arrest the current's regular flow, and make a series of comparative levels and falls in the surface current. The *means* obtained are from levels made of segments of the channel, 25, 28, 16, and 100 miles in length, and are, I think, reliable. They are, at least, the best data within my knowledge.

5. *Depth of Water.*—Within the 400 miles treated, the depth of the river at high water is not materially different. Near

* As most of the material of this memoir was accumulated prior to the cut-off made at Raccourci bend, the distances are taken round the old channel.

Natchez, I found an extreme depth of 188 feet, and a like depth has been found at several points in the vicinity of New Orleans.

One depth of 187 feet was recently found near Shrewsbury, about ten miles above the city. These are extreme cases. When the channel is distant from both shores, 125 feet is the usual maximum. A section made in front of Vidalia, half a mile below the Natchez ferry, gave a mean depth of 80.5 feet, with a maximum of about 130; and a like section of high water channel at Carrollton gave a mean depth of 71.6 feet. The low water depth may always be obtained by subtracting the range from the high water. At Vidalia, the range is 51 feet; and at Carrollton 15 feet. The mean depth of the low water sections would then be 29.5 feet and 56.6 feet. And the sectional areas at low water give 133.010 square feet for Carrollton, and 108,000 at Vidalia.

6. The channel continues to maintain a great depth, down to a point very near the debouchure. How near, I know not, but certainly beyond the head of the passes. At Fort Jackson it is 136 feet deep, and a point mid-way down the south-west pass was found 102 feet.

7. *Width.*—The uniformity of breadth in the channel is a remarkable feature of the Mississippi river. A great number of measurements made by myself, from the Balize to Galena, 1,700 miles up the river, give a mean width, including wide places in the bends of about 1000 yards, excluding these 800 yards; and the upper portion of this is wider, including expanses produced by bends and islands, than 1000 yards; but excluding them, they are the same. The addition of the four great rivers below, make no increase in the breadth of the river. The Missouri at Boonville, 300 miles above its mouth, I found a half a mile wide. (Vide table D., 1, 2.)

It appears, from these facts relating to the width of the Mississippi, that it does not follow the law of confluent streams, as given in the books.* We shall have occasion to see that in many other features it is a river *sui generis.*

8. *Velocity of Currents.*—To obtain the surface velocity of the river, I have established parallel sights, transverse to the river, and with an assistant, at one of the stations, timed floating drift-wood, on still days, at all parts of the surface, estimating by the eye their distance from shore. This I have done at

* "Assuming that the Mississippi and Missouri rivers had equal breadth and discharged equal quantities, the breadth of each represented by b and their resultant by b', then $b'=1.32b$, and the breadth would be increased one-third. But if, on the contrary, the united rivers should be divided into two equal branches, each of them would have the breadth $b=0.76b'$, about three-fourths of the breadth of the undivided river." Stein, Com. Rev., February, 1850.

all stages of water, and derived the mean of each set, to the number of many hundreds of observations.*

9. The result shows a mean surface velocity at high water of 2.61 miles per hour, at Carrollton, and 2.60 miles per hour at Vidalia; respectively, 3.80 and 3.82 feet per second of time. The one was derived from 176 observations, and the other from 70 observations. At low water, Carrollton, 1.45 miles per hour, or 2.11 feet per second; at Vidalia, 1.54 miles per hour, or 2.25 feet per second.

10. (Vide tables B. C. E.) The mean velocity for mean water, as derived from thirty years' observation, is 2.26 miles per hour, or 2.95 feet per second.

11. The velocities at various depths are not easily obtained. The irregularities of bottom and sides in the channel, and their continually shifting nature, give so many lateral and vertical directions to portions of the current, as very much to equalize the current velocity, at all depths. Besides, the largeness of the volume renders friction much less influential than is usually computed to fluents. Accordingly, in sounding, I have found the lead, when thrown in great depths, to be drifted down stream, as fast as the boat from which it was thrown, so that my soundings were made vertically, by letting the boat drift while the lead was descending.

I have allowed, with some hesitation, one-eighth for retardation from friction, which is 12 1-2, instead of 15 per cent., the rate usually allowed. This is a liberal allowance at high water, but at low water, it is small enough, as we shall probably see. (Vide table B, 1, 2.)

12. It is remarkable that the high water sections at Vidalia and Carrollton, 275 miles apart, should be the same; but much more remarkable, that observations should have given so precisely the same mean velocity, 2.60 and 2.61 miles per hour. This is what should have been expected from observations of the utmost exactness on the hypothesis I assume, that the Atchafalaya, Lafourche and Plaquemine, carry off as much as Red River introduces.

13. *Rise and Fall of the River.*---The range of the river is, at Vidalia, as above stated, 51 feet; and at Carrollton 15 feet. These are the extremes not often reached. In 1829 and in 1819, the river was 51 feet below the mark of 1828, and this latter mark is the highest for thirty years, at all known points

* It may, and probably will be objected, that floating drift-wood is not a reliable index to the current's velocity, because of atmospheric friction and accidental disturbances. Some care was always taken in selecting bodies least liable to these objections, and calm days invariably chosen. The estimated distances, too, are liable to be erroneous, but when the objects timed are very numerous, the errors arising from estimating distances from shore may be assumed to cancel each other. Let those who have better observations offer them, I pretend only to approximations.

on the river, up to the year 1849, when the water reached in several places the same point as in 1828. In 1815 the water rose at Vidalia two inches higher than in 1828, and was said to be the highest water since 1770. Mr. Hutchings thinks the water mark* was made in 1770, which was still visible in his recollection, fully one foot higher than any mark since reached. Governor Sargeant records this tradition, in 1809, when there was a flood higher than for forty years. The accompanying table or scale, L, will show the relative height in different years for forty years, and the date of culmination. These are from a register kept of actual rise and fall for thirty years, and from other sources reliable. The range of high water marks is three feet at Carrollton — 1839, April 8th — the highest water of the year being three feet four inches below high water. Low water marks have a much greater range; the lowest mark of 1844 being seven feet above the lowest known.

14. The median line or curve of rise and fall for thirty years, 1817 to 1847, reaches an elevation just one foot seven inches below the mark of 1849. This is in the last week of April, which proves to be the mean time of highest water. The lowest water by the same mean is on the 1st of October, and is three feet six inches above the lowest mark. It will be observed that this table has been reduced to Carrollton, or 15 feet range in rise and fall; but the dates have not been altered.— They should be reckoned a week or ten days later for Carrollton than for Vidalia. The mean height of this line for the whole thirty years is 7,222 feet below highest mark. (See plate M for the four median lines, three of ten years each, and one of thirty years.)

15. *Recapitulation.*—We have shown the "rate of fall" depth, breadth, velocity, and rise and fall of the water. From these we may compute the rate of discharge at all stages, and the mean rate for thirty years. And the quantity by these data is 12,250,000,000,000 cubic feet per annum, or 447,199 cubic feet per second. (See table D, 1, 2, 3, 4.)

It is worthy of especial observation, that the mean for the three sets of ten years shows a lower level of discharge at each consecutive ten. (See table C.)

16. *Sediment.*—The experiments of Professor J. L. Riddell show the sedimentary matter transported by the Mississippi to bear a proportion in bulk to the whole quantity discharged of one to three thousand.† At this rate, the cubic contents would

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* To those accustomed to the woods which have been long inundated it will not be surprising that water marks remain many years, possibly half a century. The water mark of 1828 is perfectly visible over a large portion of our alluvion, and is, in the woods above Bayou Sara, two and a half inches above the highest mark of 1849. I examined this matter most thoroughly.

† The experiments made by Andrew Brown, Esq., of Natchez, Mississippi, and

be, by my measurements, as above, equal to 4,083,333,333 cubic feet. The sediment, then, would cover twelve miles square one foot deep.

Application of Statistics and Principles.

17. Reasoning *a priori*, the following inductions and conclusions seem unavoidable:

a. The channel of the river is made by the abrasive force of its waters. A greater force would produce a greater channel; and a less force a less channel.

b. The greater the channel, the less the liability to overflow.

c. Concentration of force increases abrasive power, and diffusion of force reduces it.

d. Levees confine and concentrate the waters, concentrate and increase the force, therefore increase the abrasion, therefore the capacity of the channel.

e. Outlets diffuse the waters, reduce the abrasive force, and therefore reduce the capacity of the channel.

f. If the channel be already greater than necessary for its servitudes, it would be safe to relieve it of some of its grooving force by outlets.

g. If the channel be too small for its servitudes, it would be wise to increase the channel making power, by closing outlets.

18. The Mississippi river discharges a given quantity annually, and this is divided into daily supplies, with a maximum here, in April and May. It can produce no more.

a. If this supply be discharged with a greater velocity, it must maintain a lower level, even if the channel remain unchanged; for there can be no more than the supply to be discharged, and hence the *volume* discharged in a month or year must remain the same.

b. A greater force, with the same volume, implies a greater velocity.

c. Therefore, the levees which confine the waters and concentrate the force, increase the velocity and *depress the level of discharge.*

19. By reference to the diagram M and table C, we shall find these inductions, *a priori*, sustained by the facts.

a. From the year 1817 to 1827, there were no considerable levees above the mouth of Concordia coast, say 250 miles. And from 1837 to 1847, we may regard the system of levees as in full operation, for a long distance above and below the point of observation at Vidalia.

b. During the first ten years (1817 to 1827) the mean height

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read before the American Association for the promotion of Science, by Dr. Dickeson, give a much larger proportion of sediment; but from the manner of conducting the experiments and obtaining the water tested, I rely upon the results of Dr. Riddell in preference.

of the river's surface was, for the year, 6 inches above the mean height of the following ten years (1827 to 1837), while levees were being constructed; and 9 inches higher than the mean height of ten years (1837 to 1847), under the levee system. This relates to the mean annual height, and reduced to the range of Carrollton.*

c. But the mean *high water* mark of these decennial periods is in like manner reduced, being 4.4 inches lower, in the second, than the first period, and 6 inches lower in the third period.

d. But we have from the dates of highest water a very unexpected result — namely, the date of highest water is later in the second and third periods than in the first.

The mean dates of culmination are for Vidalia, April 26, April 30, and May 15, for the three periods, in their order, and the mean of the 30 years is on May the 7th.

e. The common impression, that levees produce earlier high waters, would appear to be unfounded; and this is the conclusion which it seems to me would be arrived at, from section 18, *a*, *b*, *c*; because the supply cannot be increased or hurried before the rains and thaws of the spring, and our levees can have little effect in hastening the dates of highest water at any point within the influence of levees. The mean dates of culmination, as given here, then, only prove to me, that the periods observed are too short to obtain a fair mean, when the range is from March 12th to July 16th.

20. *Cut-offs.*—By application of the principles and reasonings to facts, we shall find:

a. That a cut-off shortens the channel, increases the declivity, accelerates the velocity, strengthens the channel-making power, abrades the banks and bottom with more vigor, and ultimately produces a lower mean level than before the cut cut-off.

b. Accordingly, the effect of Shreeve's cut-off at the mouth of Red River, presented in 1844† these phenomena, namely.—At the cut-off, the water was 3 feet or more lower than the water-mark of 1828. Twenty miles above, it was 30 inches lower, 40 miles up, it was 14 inches lower; at Vidalia, 60 miles above, it was 7 1-2 inches lower, and at Water-Proof, 90 miles, it was 3 inches lower, and at points above Water-Proof, it was regarded as equal to 1828.

c. At Morganza, it was 18 inches lower, and at New Orleans and at Carrollton full 8 inches lower than in 1828.

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* The difference of mean height at Vidalia would be more properly considered. The six inches at Carrollton was about 20 inches at Vidalia, and the 9 inches equal to 30 inches, where the range is 51 feet.

† In all these comparisons I regard the river as having been of the same height when not locally affected in the years 1823, 1828, 1844, and 1849.

These facts were determined by myself at the time, and since, and carefully noted.

d. We may conclude, hence, that the effect was perceptible about 100 miles above, and at least 200 miles below a cut-off, abridging the distance of current 18 miles, and 3.54 feet to the fall of water, thence to the Gulf; and that it showed a reduction of high-water level both above and below the cut-off.

21. The Raccourci cut-off has been too recently made, for a full illustration of the effects. Some have already been severely felt. It shortened the distance 28 miles, with a fall at high water of 4.5 feet. The effects in draining the district above it have been realised as anticipated. Its effect at Vidalia was about 4.5 inches, and expired at a distance of about 100 miles. Below it has not had time to produce the new channel due to its acceleration, and has raised the water probably in a slight degree, but not to the mark of 1828, at Bayou Sara, by 2.5 inches. By the best information I can obtain, the difference is about two inches in the bend above Carrollton.—By changing points of greatest force, and by increase of that force, it has committed great ravages upon the banks, both above and below the cut-off. It will require but two or three years more, judging from past experience, to adapt the new channel to the new channel maker, when the whole will be discharged at a lower level than before the cut-off.

22. The matter, as a question of hydrostatics, is settled that a cut-off will reduce the level of discharge on both sides; and the question of policy reduced to one of cost from abrasion of banks. This should be well weighed, before making a cut-off, from the suddenness with which a new force is applied. Levees are extended so gradually, that the consequences are slow in being felt, and may be guarded against.

23. *Regimen of Rivers.*—It has recently been advanced by Dr. Riddell, that the river has some normal regimen, and that the effects of a cut-off were, to continue the carving in the bends of the river, until its channel shall obtain its former length, and regain its normal regimen.

a. I am not aware of any law or laws of currents, whether sediment bearing, or clear, which will warrant such doctrine. Inert matter can certainly have no choice of greater or less velocity.

b. The greater the momentum, of course, the greater the power to remove obstacles — and all bends are obstacles.

c. The weaker a fluent, the easier diverted from its course, and hence the tortuousness of streams with little fall.

d. The aggregate tendency of a river, with alluvial banks, of uniform power to resist abrasion, is to straighten its channel.

e. No banks are uniform in this respect, and hence no stream

attains or maintains a straight channel. But the power to approximate straightness is increased with the greater declivity, and increased force gained by a cut-off.

24. *a. State of Levees and their Servitudes.*—The levees of Louisiana may be regarded as in full operation for fifty years, for a distance of one hundred miles from Bayou Lafourche down below the city. These levees have an average height no greater than those now being erected in the upper portion of the State; and the highest water marks known, whether within the levied districts or without, are no higher than many points of the land; and some of the best river plantations present long reaches *without levees.*

b. The river then has not raised its bed, nor reached a point of elevation, in recent years, greater than its level when it deposited those high grounds.

c. To maintain levees in future, then, we shall have to raise them no higher than in the past.

25. *a.* The location of levees below Baton Rouge was chiefly made before those farther above, and consequently were placed too near the bank to admit of the new abrasions, arising from cut-offs, from extended levees, and from the never ceasing steam-boat waves.

b. For this reason, they are now being destroyed by caving banks and by lashing waves.

c. A period has arrived, when these new elements have cut away the small battures; and the high waters which the geology of this alluvion shows to have been frequent, geologically speaking, in past ages, are recurring, and our levees are wholly unequal to the task of restraining the waters. There are those who are not croakers, that have foreseen these disasters; but their warnings have not been heeded. Good levees have not been erected. The law in this respect has never been enforced.

26. The management of levees has been in the hands of those least capable of enforcing the law.

The districts have been determined by parish boundaries, and not as they should be, by the topography of the grounds.

The vigilant have often been inundated, from the negligence of their neighbors.

These considerations, and not any defect in the principle, have caused a distrust in the levee system.

27. *What is the Remedy for Overflows?**—I would suggest to lay off the State into levee districts, indicated by the topography of the grounds, and of each district make sub-dis-

* I treat this part of my subject professionally, and not as a legislator. It is for the Legislature to provide ways and means. Let any one calculate how many miles of such levee as I propose could be built with the money lost within the past year by inundations.

tricts in like manner, with guard levees running back between them.

Let the districts be large enough to occupy the time, attention, and professional labor of a surveyor of levees.

Let there be a chief engineer of levees, whose duty it shall be to survey and define these districts, and to nominate to the governor the district engineers, and to be responsible for their acts, and his own, in heavy bonds.

Let the whole and sole control be placed in his hands, with plenary powers to enforce the law respecting work upon the levees, and to draw from a fund created for that purpose, to have the work performed, whenever the planter is delinquent.

Let the levees be erected, in all cases, one arpent from the river, and two or three arpents whenever ascertained to be necessary, by a hydrographic survey of the river. The proprietor having to make such levees in front as may be desirable or necessary to his interest.

28. Let the levee be at least 25 feet wide on the summit, and the public road placed on it, whenever the levee is not more than 5 feet high. (Diagram P, 1).

When the levee is higher, let the crest be at least 8 feet wide, protected from travel; its base 60 feet, and the public road, on its side at least, 4 feet above the level of the land, on its river margin, and inclined thence 25 feet to the gutter, at the level of the land. Let the road be made of batture sand and it will always be practicable. (Diagram P, 2.)

With such a levee, located, governed, and constructed as above, with the professional pride of the engineer and his heavy bonds to quicken and render him vigilant, I have great confidence the country could be maintained free from inundations.

Without a levee system under State Government, I have no hope for a remedy for the disasters, now so common and overwhelming.*

Waste Weirs and Debouchures.—Since this memoir was in progress of preparation, a series of questions have been addressed to me by the joint committee on overflows, levees, and drainage, of the Legislature.

The principles and views I have expressed, answer most of these queries.

And my opinion of the effects of a waste-weir at Bonnet Carre, or elsewhere, has been asked; and although my gener-

† A thorough topographic survey of the State, as a part of a general geological and scientific survey, would enable the State to distinguish the boundary between alluvions and upland, and thus to levy a just tax upon lands liable to inundation, for the purposes of leveeing and draining them.

Shall we wait longer for the development of the resources of the State, while others are reaping the rich rewards of the few thousands spent in a scientific survey?

al conclusions are readily inferable from this paper, there are some details worth stating.

The objections are found in articles 17 and 18, as given above, that it would weaken the force of the current, at the bars of the river, and in the channel. All this force is needed; for the bars soon fill up on diverting the waters and weakening the force.

For many years, the North-east Pass was the principal channel of commerce, and ships of 15 or 16 feet water passed the bar. Its depth now is about 8 feet, and 11 feet is the greatest depth a vessel can carry over the bar, going out. Meantime the South-west Pass has opened, and after several months of high water cutting at the bar, a ship (the Columbia,) was brought *up* over the bar, with nineteen feet of water. This is probably the greatest depth ever brought over against the current.

Three or four years since a cut-off was made by nature and the oystermen, 25 miles above the Balize, discharging the water into the West Bay. In July, 1849, I measured and found the New Pass, called Wilder's Bayou, 1,500 feet wide, and 60 feet deep near the south shore. Since that time the North-east Pass has been closing with a new rapidity, and promise is given of a new channel to the Gulf.

But every new channel closes some previous one, or affects and injures all others.

The objection made by some, that a waste-weir at Bonnet Carre would fill the lake, and first flood with water, and next fill up the bed with sediment.

Both these objections I think groundless — first, because a few inches elevation of the water enables it to spread over an outlet several miles wide; and second, because a volume equal to one-tenth part of the whole river discharged into the lake would not deposit more than one foot per century.

Nor is there much danger, in my opinion, of a waste-weir wearing a channel, even with the nineteen feet fall of water from the river to the lake, at Bonnet Carre.

But I am confident that the channel below would soon adapt itself to the diminished force, and there would be little or no reduction of level.

And it is certain that it would accelerate the velocity above, and increase the ravages upon the banks for twenty or thirty miles above.

Let us be careful in future how we tamper with the Mississippi river. He is a tyrant too ungovernable to be trifled with. We know too little of the physics of the river to make experiments at present; and that will be the wisest legislation which directs efforts to solve its thousand unknown traits, and mean-

time relies upon long tried methods more powerfully and strongly applied in the future.

Without any particular theory to maintain or interest to subserve, by the adoption of a particular policy, more than the common interest of a citizen, I submit these views and facts, trusting that they may be of value at the present crisis, but perfectly ready and willing to see them entirely superseded and forgotten, whereinsoever they are not sustained by reason and truth.

ART. III.—NICARAGUA CANAL—RIVER SAN JUAN.

We copy from the Railroad Journal, a portion of a letter from Mr. Squier, United States Charge d'Affairs to Central America, describing the river San Juan. According to this description of the river, a connection of the two oceans by an improvement sufficient to pass large vessels from one to the other, will be found much more difficult and costly than it is generally believed to be.

"The river San Juan, concerning which so much has been written, is certainly a magnificent stream. But its capabilities have been greatly exaggerated. It is the only outlet of the two lakes above mentioned, flowing from the southeastern extremity of Lake Nicaragua, nearly due east to the Atlantic.—Its length has been variously estimated at from 79 to 104 miles. The first estimate is certainly too little. Mr. Baily calculated it at 90 miles, and he is probably not far from correct. The body of water which flows through this stream is at all times considerable, but it varies greatly in amount with the seasons of the year. It is greatest during what is termed the "rainy season" in the interior, that is to say from May to November, at which period the body of water is nearly doubled. To this circumstance, in a great degree, may be ascribed the wide difference in the statements of the depth and capacity of the river made by different individuals.

The banks of the San Juan, from the fort of San Carlos, at the outlet of the lake, to the *Rapides del Toro*, a distance of twenty miles, are generally low, and covered with palms, canes, and a species of high coarse grass, called *gamalote*. The river here sometimes overflows its shores; which, for a considerable distance back, seem to be flat and swampy. From the port of San Juan upwards, half way to the point of the divergence of the Colorado, a distance of eighteen miles, the banks of the river present a corresponding appearance. At the mouth of

the San Carlos, there are hills two thousand feet high; and the river is much contracted. The entrance from the passage between them from the west somewhat resembles the opening of the high lands of the Hudson from the north.

The banks of the river are in some places rocky; elsewhere they are far from being as crumbling as those of the Ohio and the Mississippi, and the other rivers of the western States of the Union. This is perhaps due, to some extent, to the roots of trees and plants which penetrate and bind the earth in all directions. The bed of the river may be regarded as essentially permanent. It, nevertheless, abounds in islands; of which there are hundreds. Some of them are low, and covered with gamalote, or with canes; but most are as high as the banks of the river, and wooded in like manner.

The width of the river varies from 100 to 400 yards, and its depth 6 to 20 feet. I should estimate the average volume of water at about that of the Hudson above tide water. The bottom seems generally to be gravel. There are four considerable rapids, where the bed is rocky and the water shallow.—These will be noticed hereafter in detail. The current, from the mouth of the river to the Del Toro, is strong. With the water at a medium stage, in a light bungo, and with a stout crew of ten men, I was six days in passing from San Juan to San Carlos. The men labored hard, at the oars and setting poles, from daylight until dark each day. We passed other bungoes which had left three days before us; and our trip was regarded as one of extraordinary rapidity for the season. From these facts some idea may be formedof the strength of the current. Bulow calculates the fall of the stream at twenty inches per mile, except at the various rapids, where it is more.

The water of the lake opposite the fort, and fronting the opening of the San Juan, is comparatively shallow, not exceeding eight or ten feet in depth, with a mud bottom for the distance of a mile and upward from the shore.

The opening of the San Juan is probably three hundred yards and upwards broad, which width the stream maintains with great uniformity to the Rio Savalos, a distance of twenty miles. For this extent, the current is slight, according to Baron Bulow not exceeding *one and a half miles the hour.* The channel is wide, and the depth of the water from three to four fathoms. The banks are low, and the back country flat and swampy. Some sluggish streams come in from both north and south but they are almost hidden by the overhanging trees.

At the Rio Savalos commences the Rapides del Toro, which are about three-fourths of a mile long. The water, of course, varies in depth with the different seasons of the year. At the time of my passage, it was certainly, for the most of its extent, less than a fathom. The banks upon both sides are firm and

high, and the palm gives place to other and larger trees. Bulow gives the current at 180 to 200 yards per minute, but I esteem it something more.

From this point to the Rapides Castillo is six miles. The intervening banks are high, and the land well adapted for settlement. At the Rapids considerable ridges come down the river on both sides. The rapids here are short but swift, better deserving the name of falls than rapids. Barges cannot generally ascend loaded. When they have heavy cargoes, part of the same has to be removed and carried past the falls. The boats are then tracked or pushed up against the current by main force. My barge was upwards of two hours in getting as many hundred yards. These rapids, without artificial modification, would present an obstacle to all kinds of navigation. It might be made practicable with some trouble, for small steamers, light draughts, such as are used upon some of the small western rivers.

Three or four miles below the Rapides del Castillo are the Rapides los Valos and Mico, which may, however, be regarded as one; the current here is 200 or 300 yards per minute, the bottom rough and rocky, and navigation in barges difficult.—The water does not appear to be more than from four to six feet deep, for any considerable distance. The banks correspond with those above the castle.

To the rapids of the Machuca (the present limit of the English claim) the last, longest and worst, the river is deep and free from obstructions.

"These rapids," says Bulow, who is disposed to represent the capabilities of the river in the most favorable light, "are worst of all; the water is more broken from running over a rocky bed; stones and rocks project above the surface for a distance of 600 yards, and great attention is necessary in passing the channel."

From this point to the San Carlos, the river is very fine, the banks high and studded with beautiful trees; the current is regular, but the depth of water variable. Bulow states the depth at from two to six fathoms. The San Carlos is a large stream, and may be ascended by bungoes to the distance of fifteen or twenty miles.

From the river San Carlos to the Serapiqui, the banks are good, though not so elevated as they are higher up the stream; the current is strong but even, and the depth from 10 to 20 feet in the channel.

To the divergence of the Colorado river is a distance of 13 miles, the banks preserving their elevation to the divergence of the Juanillo, from which point they become very low; the current is regular, and the depth, according to Bulow, from 10 to 30 feet. The Colorado withdraws a large body of water

from the river, which, however, continues to preserve nearly its original width to the port of San Juan. The channel for the remaining distance is studded with low islands covered generally with gamalote; the depth is very variable, ranging from four or five to ten or twelve feet, the bottom gravely.— In the dry season, bungoes pass with their loads with difficulty.

I have no hesitation in asserting that the San Juan can never be made navigable for ships of any considerable size. Small steamers, with some slight improvement in the channel, might be run without much difficulty, and this is all that can be hoped for from this stream.

In case it should be determined to open communications for ships across the continent at this point, it would be necessary to cut a canal at the base of the hills parallel to the stream, which might be made to yield, at the necessary intervals, the requisite supply of water. It is probable that the river might be used, from the lake to Del Toro, though even this is not certain. I am convinced that the ground rises not very far back from the river on the north, and that stone and all the materials necessary for the construction of a canal might be obtained without much difficulty very nearly on the spot desired. These are things, however, that can only be determined from actual survey. A canal upon the southern bank, for reasons sufficiently obvious from what has been presented above, is impracticable.

From the Merchant's Magazine.

ART. IV.—THE PRECIOUS METALS, COINS, AND BANK NOTES.*

PART I.

The utility of gold and silver, and the properties which fit them for measures of value and for currency, though they do not furnish an invaluable standard of value — the quantity of pure silver and gold, and of alloy, in the coin of the United States and of Great Britain at different periods — Mr. Jacob's estimates of the amount of coin in the Roman Empire and in ancient Europe — production of gold and silver from 1492 to 1840, and Gregory King's estimate of the supply in 1500 1600, and 1696--the wear and loss of coin — the consumption of the precious metals in the arts, in making plate, and for all purposes other than coining —the amount exported to Asia, and the amount of coin and bullion in Europe and America at different periods from 1500 to 1840.

Gold and silver have been extensively used in the arts, for domestic utensils, ornaments, objects of luxury, and numerous other purposes, from the earliest times. Their great utility, and intrinsic value, together with their beauty, durability, and the facility of converting them from one form into another, without much loss, has made them general objects of desire by the whole human family, and the universal currency of civilized nations, from the earliest periods of history.

As a currency, or money, they have been used as measures of value, and also as instruments or means of payment. On account of their durability, convertibility, and great intrinsic value, in proportion to their weight and bulk, they constitute the best and safest currency which the world can furnish;

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* We take great pleasure in laying before our readers the tenth chapter of "Essays on the Progress of the Nations in Productive Industry, Civilization, Population and Wealth," by Ezra C. Seaman. The work was originally published in 1846. The author is now engaged in re-writing the work, and proposes to publish a new and revised edition in the early part of 1851. The following chapter, which the author has kindly furnished for our journal, has been remodeled for the new edition; and by reason of information acquired during his residence in Washington, and an extensive system of comparisons, it has been rendered more complete, and entirely consistent with itself in all its parts, and with the facts of history, as far as they can be clearly ascertained. The arrangement of the matter is greatly improved, the errors corrected, as far as practicable, much of the old matter left out, and its place supplied from data more recent and more reliable. It forms, perhaps, the most accurate, complete, and, at the same time, comprehensive essay on the precious metals, coin, &c., that has ever been published in the present form; and, taken in connection with the California discoveries of gold, &c., it will be found highly interesting and useful to the banker, merchant, statesman, politician, and, indeed, to all who desire to become acquainted with the "facts and figures" which have such an important bearing upon this branch of political economy. The information, so far as the mints of the United States are concerned, is brought down by Mr. Seaman, from official sources, to the 30th of April, 1850.— We cannot omit the opportunity, in closing this note, of commending the forthcoming edition of Mr. Seaman's valuable work to the readers of the Merchant's Magazine; and while we are not prepared to endorse or adopt every inference drawn, or opinion expressed, in its pages, we most sincerely and cordially recommend it as one of the most valuable and important publications of the nineteenth century.---NOTE BY THE EDITOR OF THE MERCHANT'S MAGAZINE.

though a currency composed mostly of paper, based on the precious metals, is much cheaper, and more convenient. Gold and silver have an intrinsic value in the public estimation, to the full amount at which they pass as money; while bank notes, and other paper money, are but the representatives of value; and they are often only the evidence of an obligation to pay what it is not in the power of the obligor to pay, according to the terms of the obligation.

Even the precious metals do not constitute an invariable standard or measure of value; for their value, like that of any thing else, depends upon the relative proportion between the supply and the demand; and when we compare their value in the market at periods distant from each other of a century or more, we find their fluctuation in value greater than that of breadstuffs; but as they are comparatively rare metals; as great labor is generally required to produce them; as the production of the mines is not affected by frosts, droughts, rains, and other changes of the seasons, and the quantity in use can never be suddenly increased or diminished, if you take periods of time from one to ten years, they are subject to very little fluctuation, and furnish a standard of value almost perfect.

Nature has not determined the relative value of the two metals. That depends partly on the uses to which they may be applied, and the consequent demand for them, and partly on the production of the mines, and the average amount of each, produced by the employment of a given amount of labor and capital. Prior to the discovery of America, an ounce of gold was equal in value in Europe to about ten ounces of silver.—The American mines have produced in quantity about forty times as much silver as gold, which caused a gradual rise in Europe of the relative value of gold, when compared with silver, until the former became in different countries, from fourteen to fifteen and a half times as valuable as the former; it was made fifteen times as valuable in the United States by the act of Congress of April, 1792, and sixteen times as valuable by the act of June, 1834. If the Russian mines should continue to furnish large supplies of gold, and the present anticipations should be realized of an immense and inexhaustible supply of gold from California, the relative value of gold must decline; and the time is not far distant when it will not be worth more than ten or twelve times as much per ounce as silver.—But no fears need be apprehended that the aggregate amount of the precious metals will increase faster than the population, and the wants of commerce, and of the world of fashion. The probability is, that they will not increase as fast, and that if the price of the gold should fall, the price of silver will increase more and faster than gold falls. It may be important for Congress to act on this question very soon, to reduce the relative

price of gold to the former standard, of fifteen times the value of silver, and to increase the quantity of gold to be coined into a dollar; or else silver coin, being relatively more valuable to export than to use in this country, will be rapidly exported.

British coin, both gold and silver, is made of eleven parts pure metal, and one of alloy; every pound troy, or 12 oz. of standard silver or gold being composed of 11 oz. 2 pwts. of pure metal, and 18 pwts. of alloy. From the Norman conquest, in 1066, to the year 1300, a pound of standard silver, (that is 11 oz. 2 pwts. pure silver, and 18 pwts. alloy, was coined into 20 shillings, or one pound, sterling money. The number of shillings into which the same quantity of silver was coined was increased from time to time, until in 1527 it was coined into 40 shillings, or two pounds, and soon after into 45 shillings; in 1560, and from that time until 1600, it was coined into 60 shillings; from 1600 to 1816 into 62 shillings; and since 1816 into 66 shillings. From 1543 to 1553, the coin was much more debased.

The number of grains of pure silver, and of pure gold, contained in one pound, or twenty shillings, sterling money, at different periods, have been as follows:—

Years.	Silver. *Grains.*	Gold. *Grains.*	Gold to Silver. *Grains.*
1560 to 1600	1,776	160	1 to 11.1
1600 to 1604	1,718.7	157.6	1 to 10.9
1604 to 1626	1,718.7	141.9 to 128.8	
1666 to 1717	1,718.7	118.6 to 113	
1717 to 1816	1,718.7	113	1 to 15.2
Since 1816	1,654.5	113	1 to 14.28

Gold only is a legal tender in Great Britain for any sum above two pounds sterling.

The act of Congress of June, 1834, prescribes that all coins of the United States shall be nine parts pure silver, or gold, and one part alloy. By the act of April 12th, 1792, a dollar is required to contain 371 1-4 grains pure silver, and the same by the act of June, 1834; gold being declared fifteen times as valuable as silver by the former act, and sixteen times as valuable by the latter act.

The number of grains of pure silver, and pure gold, contained in five dollars under each act, have been as follows:

Years.	Silver. *Grains.*	Gold. *Grains.*	Gold to Silver. *Grains.*
1792 to 1834	1,856 1-4	123 3-4	1 to 15
Since 1834	1,856 1-4	116	1 to 16

The British gold sovereign is nearly equal in value to $4 87, American gold coin, though it is declared by the act of 1834 worth only $4 84. Calling a dollar 4s. 6d. sterling, the par exchange on England, payable in gold, is over 9 1-2 per cent.;

payable in silver it is nearly 2 per cent. in our favor; but as more than nine-tenths of the circulating coin of England is gold, and silver is sold in quantities at less than its legal value, as compared with gold, and the tenth part of an American eagle is worth only 4s. 1 1-2d. sterling, in British gold, we may fairly reckon a dollar at 4s. 2d. sterling, and the real par exchange at 9 per cent. nominal value.

III. The learned historical inquiry into the production and consumption of the precious metals made by William Jacob, Esq., of England, was published in 1831. Mr. Jacob says it has been estimated by several diligent inquirers, that the whole annual revenues of the Roman empire, in the time of Augustus, amounted to a sum equivalent to forty millions sterling of English money, of its present standard of fineness and weight. This seems not improbable, as the population of the empire has been generally estimated at over one hundred millions, during the first and second centuries of the Christian era. He estimates the amount of the precious metals of gold and silver in the empire, at the death of Augustus, A. D., 14, as equal to the enormous sum of £358,000,000 sterling of English money; which seems to me incredible, considering that the knowledge of mining, and of the mechanical powers necessary to carry it on advantageously were then comparatively in their infancy, and that the mines of Europe, Asia, and Africa, have yielded very little since that time. He states that the mines were all nearly exhausted, and that the precious metals decreased from that period by friction and actual loss at the rate of 10 per cent. every 36 years, leaving in the year A. D., 410, but £107,435,-924; and in the year A. D., 806, but £33,674,256. The quantity named at the latter period seems more probable than the former.

All these estimates are vague conjectures, without any accurate and reliable evidence to support them. The amount of coin in Europe, at the discovery of America, is estimated by him at about £34,000,000 sterling, or $163,000,000, which does not differ much from the estimates of other authors, and is probably not far from correct.

IV. All the record evidence, and the estimate of authors, merchants, and public officers, of the production of the American mines, from the discovery of America to the year 1803, were investigated with so much care and science by the learned M. Humboldt, that his estimates have been generally adopted as approximating as near to accuracy as is practicable.—One thing, however, is very certain. He has greatly over-estimated the amount of gold and silver smuggled out of the colonies both of Spain and Portugal, without paying duty, and without being registered, or else their loss, and the amount used in the arts, and converted into plate, and other utensils and orna-

ments, has been much greater than has been generally estimated. The amount in circulation, as coin, has been overrated by almost every writer of the present century, except Storch; and yet, it is difficult to account for the consumption of the precious metals, unless the amount produced by the mines has been greatly overrated.

Baron Humboldt estimated the quantity smuggled, in order to avoid the payment of duties, and unregistered, as equal to one-fourth the amount registered in the Portuguese colonies, and to over one-fifth the amount registered in the Spanish colonies. This is all conjecture, and, so far as Mexico, Peru, and Chili are concerned, which have very few ports from which it could be smuggled, it strikes me that the estimate is too great, by more than half, to be probable.

TABLE NO. 1.

STATEMENT OF M. HUMBOLDT OF THE VALUE OF GOLD AND SILVER EXTRACTED FROM THE MINES OF AMERICA FROM 1492 TO 1803, AS REGISTERED.

From the Spanish colonies - - -	$4,035,156,000
" Portuguese colonies - - -	684,544,000
Total registered - - -	$4,719,700,000
Estimated amount smuggled and not registered from Spanish colonies - - - -	816,000,000
From the Portuguese colonies - - - -	171,000,00
Amount of contraband, as estimated by him,	$987,000,000
Total production of the mines - -	5,706,700,000

NO. II.

The amount of the precious metals registered, and estimated by M. Humboldt as smuggled, produced in the countries of America respectively, from the year 1492 to 1803, was as follows:

	Registered.	Not registered.	Total.
Mexico or New Spain	$1,968,000,000	$260 000.000	$2 028 000,000
Peru and Buenos Ayres	1,936,000,000	474,000,000	2,410,000,000
Chili and New Granada	331,000,000	82 000 000	433.000,000
Portuguese colonies,	684 000,000	191,000,000	855,000,000
Total, - - -	$4,719,000,000	$987,000,000	$5,706,000,000

NO. III.

The average annual products of the gold and silver mines of Europe, Northern Asia and America, at the beginning of the present century, were estimated by M. Humboldt in millions of francs and millions of dollars, as follows:—

	Gold in francs.	Silver in francs.	Total in francs.	Total in dollars.
Europe,	4,400,000	11,700,000	16,100,000	3,000,000
North Asia	1,800,000	4,800,000	6,600,000	1,200,000
America	59,500,000	176,800,000	236,300,000	44,300,000
Total,	65,700,000	193,300,000	259,000,000	48,500,000

NO. IV.

Estimate of M. Humboldt of the average amounts of gold and silver exported annually from America to Europe, and also the aggregate amounts exported during the under-mentioned periods, stated in millions of dollars; to which I have added a column of deductions of one-twelfth part the aggregate amount, for supposed over-estimates, and the amount exported, by my estimate, on making such deductions:—

Periods.	Exported per year.	Humboldt's aggregate.	One-twelfth part deducted.	My estimate of exports to Europe.
1492 to 1500	$250 000	$2 000 000	$166 666	$1,800 000
1501 to 1545	3,000 000	135,000,000	11 250,000	123 750,000
1546 to 1600	11 000,000	605 000,000	50,400 000	554 600 000
1601 to 1700	16,000,000	1,600,000,000	133.330 000	1,466,670,000
1701 to 1750	22 500,000	1,125 000,000	93,750,000	1 031,250,000
1751 to 1800	35,300 000	1,765 000,000	147.000,000	1,618,000,000
1801 to 1810	43,500,000	435,000,000	36,250,000	398,750,000
Total, . . .		$5,667,000,000		$5,194,820,000
Expt'd from the western coast of America to Asia, for Humboldt		133,000,000		133,000,000
Remining in America in coin, plate, &c., . . .		153,000,000		140,180,000
Total produced up to 1810,		$5,953,000,000		$5,468,000,000
Produced up to 1804,		5,706,000 000		

In 1696, Gregory King made an estimate of the gold and silver produced by the mines of Europe; the amount imported and exported from the discovery of America to that time, and the amount in Europe in coin, plate, &c., at different periods. This estimate is contained in a manuscript now in the British museum, (see Took on Prices, appendix, page 2, to part I.)—Mr. King's opinions and estimates on such subjects are entitled to as much, and, perhaps, to more weight, than those of any other man of the age in which he lived.

NO. V.

Estimates of Mr. King in the year 1516, stock of gold and silver in Europe in coin, bullion, plate, gilding, watches, jewelry, and all other forms, . .	£45,000.000 or	$216,000,000
Produced in Europe from 1516 to 1696, ...	8,000.000	38,400.000
Imported from Asia in manufacture, ...	2,000,000	9 600,000
" Africa in gold dust, ...	15,000,000	72,000 000
" America in coin, ...	520,000,000	2,496,000.000
Produced and imported prior to 1596, . .	205.000,000	984,000.000
Consumed and exported to Asia, ...	150,000,000	720,000 000
Estimated stock in Europe in 1596, ...	100.000,000	480,000,000
Produced and imported from 1596 to 1696, . .	340,000,000	1.670,000,000
Exported to Asia from 1596 to 1696, . . .	119,000.000	571 000,000
Consumed from 1596 to 1696, ...	96 000,000	460 800,000
Increase during the 100 years, ...	125,000,000	600,000 000
Estimated stock in Europe in 1696, ...	225,000,000	1,080,000,000

NO. VI.

The stock of gold and silver in Europe in 1696, was estimated by Mr. King as follows, stated in millions of pounds sterling:—

	In England.	France.	Holland.	Other nations of Europe.	Total in Europe.
Silver coin,	£8,500,000	£18 000 000	£7,000,000	£76 500,000	£110 000,000
Gold coin,	3,000 000	5 000,000	2.000.000	18 000 000	28,000,000
Bullion,	1,000 000	1,500,000	1.500 000	4 000,000	8.000,000
Plate of laymen,	4 000 000	9,000,000	1,500.000	31.500,000	46 000.000
" churches,	200 000	3,000 000	100,000	16,700.000	20,000,000
Medals and rarities,	200,000	900,000	300,000	3,600,000	5,000,000
Gold & silver thread, wire, &c.,	400,000	1,400,000	100,000	4,100,000	6 000,000
Do. in stock for trade,	200,000	600,000	300,000	900,000	2,000,000
Total,	17,500,000	39 400,000	12.800,000	155 300,000	225,000,000

Though these are but estimates founded on very imperfect evidence, yet they were made by one of the best informed and most competent men of the age to judge with accuracy, and constitute the best evidence on the subject that is attainable. Being made by an Englishman, we have reason to believe that the estimates are sufficiently favorable to England; and yet they show England inferior in wealth to both Holland and France. What a picture they exhibit of the amount of the precious metals engrossed by the church in Catholic countries.

NO. VII.

STATEMENT OF THE COINAGE OF SEVERAL COUNTRIES OF AMERICA DURING THE UNDERMENTIONED PERIODS.

	1801 to 1810.	1811 to 1820.	1821 to 1830.	Annual average 1831 to 1840.
Mexico,	$227,240,000	$112,160,000	$99,760,000	$12,000,000
Peru,	45,700,000	60,250,000	16,730,000	2,250,000
Bolivia,	35,870,000	20,660,000	15,700,000	700,000
Chili,	———	9,700,000	2,000,000	400,000

The foregoing table shows the rapid decline of the produce of the mines of the principal mining countries of America, during the period of their revolutionary struggle to throw off the yoke of Spain.

NO. VIII.

STATEMENTS AND ESTIMATES OF THE AMOUNT OF GOLD AND SILVER PRODUCED IN EUROPE AND THE PRINCIPAL MINING COUNTRIES OF AMERICA DURING THE UNDERMENTIONED PERIODS.

	1801 to 1810.	1811 to 1830.	1831 to 1840.
Mexico, - - - -	227,200,000	$211,920,000	$121,700,000
Peru, - - - -	45,700,000	76,980,000	22,500,000
Bolivia, - - - -	35,800,000	36,360,000	7,000,000
Chili, - - - -	*h*20,000,000	11,700,000	4,000,000
Buenos Ayres, - -	*h*48,500,000	*j*30,000,000	
Guatamala, - - -	- - - -	2,890,000	35,000,000
Brazil, estimated, -	20,000,000	*j*20,000,000	
Total of America,	$397,200,000	$389,850,000	$190,000,000
Total of European and Russian mines and gold dust imported from Africa, - -	*h*42,800,000	*h*110,150,000	75,000,000
Total, - -	$440,000,000	$500,000,000	$265,000,000

The numbers marked *h* are stated on the authority of Baron Humboldt, and those marked *j* on the authority of Mr. Jacob.

NO. IX.

STATEMENT OF THE AMOUNT OF GOLD FROM THE MINES OF THE UNITED STATES (INCLUDING THOSE OF NEW MEXICO AND CALIFORNIA FOR 1849 AND 1850) DEPOSITED FOR COINAGE AT OUR MINTS.

1824 to 1830, both inclusive, - - - -	$715,000
1831 to 1840, " - - -	5,658,025
1841 to 1848, " - - - -	7,268 033
1849, from California and New Mexico, -	6,190,408
1849, from other mines of the United States, -	898,375
First four months of 1850, - - - -	7,303,600
Total to April 30, 1850, - - -	$28,123,441

The quantity of gold bullion included in the above table received from the mines of California in 1848, was $44,177; from New Mexico, $682; and from the United States proper, $854,546. The quantity of silver from the mines of the United States, deposited for coinage in 1848, was only $6,191; in 1849, it was $39,112; and for the first four months of 1850, it amounted to $51,197; which was mostly parted from California gold.

NO. X.

There has been a great increase since 1820 in the production

of gold in Asiatic Russia. The amount produced has been as follows, stated in sterling money :—

In 1819 and 1820,	$175,333 16	In 1841 to 1845,	$11,298,993 0
1821 to 1830,	4.734,641 15	1846,	3,527,000 0
1831 to 1840,	9,180,891 7		

V. The wear and loss of coin has been variously estimated at from one-fourth to one-half of 1 per cent. annually. Mr. Jacob estimated it at 10 per cent. in thirty-six years. My estimate is one-third of 1 per cent. per annum, which is equal to about 3 per cent. in ten years ; 13 per cent. in fifty years ; and 25 per cent. in one hundred years.*

NO. I.

The amount of gold and silver used in the arts for plate, gilding, watches, jewelry, and other utensils and ornaments, the amount exported to Asia, and the amount of coin remaining in Europe at different periods, were estimated by Mr. Jacob as follows :—

In 1492, - -	———	———	£34,000,000
1492 to 1600, - -	£28,000,000	£14,000.000	130,000,000
1600 to 1700, -	60,000,000	33,200,000	297,000,000
1700 to 1810, - -	352,000,000	352.000.000	380,000,000
1810 to 1830, -	112,200,000	40,000,000	313,000,000

The reader will see that these estimates are very different from those of Gregory King, stated in tables No. V. and VI. of the last section. On comparing the two together, and with the condition and commerce of the several countries of Europe, it appears to me that Mr. King's estimates are the best evidence we have on the subject, and are entitled to our confidence.

Mr. Jacob estimated the amount used in the arts, in Europe and America, annually, from 1810 to 1830, over and above amount of old plate, &c., melted, equal in value to £5,612,611. Humboldt estimated it in 1804 at but 87,182,800 francs, equal to £3,459,000. McCullock estimated the whole amount annually in 1833, as follows :—

In Great Britain and Ireland, - - - -	£1,842,916
France, - - - - - - - -	866,190
Switzerland, - - - - - - -	350,000
All the remainder of Europe, - - - -	1,204,118
America, - - - - - - -	300,000
Total annual consumption in the arts, - - -	£4,563,224
One-fifth part derived from the fusion of old plate,	912,644
New gold and silver annually used in the arts,	£3,650,580

* The loss from fire is probably nearly one-tenth of 1 per cent. annually; from burying and transportation by land and water, about as much more; and from friction, more than one-tenth of 1 per cent. annually.

It appears to me, also, that the estimates of Mr. Jacob of the amount of coin in Europe at each period are entirely too high; and that the estimates of the quantity of gold and silver used in the arts prior to the year 1700, is too low by about half; during the eighteenth century, too high by nearly half; and too high, also, for the period from the year 1810 to 1830; and that the estimates of Humboldt and McCullock are too low. Humboldt estimated the coin in France in 1803 at 1,850,000,000 livres, or francs, equal to nearly $347,000,000, for a population which he estimated at 26,363,000; that is seventy francs, or about $13 each. Europe then contained, according to Hassel, 182,600,000 inhabitants; of which Russia, Sweden, Norway, Denmark, and the Sclavonian and Sarmatian nations constituted more than 62,000,000. "Allowing (said he) for Great Britain and for the west and south of Europe 55 livres per individual, (or about ten and one-third each,) and for other countries less advanced in civilization 30 livres (or about 5 2-3 each, we shall find the total specie of Europe cannot exceed 8,603,000,000 livres." Carry out the principles of his calculation, and the result is as follows:—

	Population.	Livres.	Livres.
France, - - -	26,400,000	at 70 each	1,850,000,000
Russia & other east'n nations,	62 000,000	30 "	1,860,000,000
Other nations of Europe,	94,000,000	55 "	5,870,000,000
Total for Europe, -	182,400,000		8,870,000,000
Equal to about - - - - - -			$1,665,000,000

NO. II.

The coin and bullion of several countries of Europe have been variously estimated at different periods, as follows:—

G. Britain by Davenant in - -	1600	£4,000,000	sterl.
Gregory King, -	1696	8,500,000	"
Anderson, - -	1762	16,000,000	"
Dr. Price, - -	1777	15,000,000	"
Lord North, - -	1778	18 to 19,000,000	"
Adam Smith, -	1786	18,000,000	"
Rose, - - -	1802	44,000,000	"
Chancellor of Exchequer,	1830	38,000,000	"
France by law in	1716	1,200.000,000 livres or	$225.000,000
Neckar	1784	2,200,000,000 "	414,000,000
Arnould	1791	2,000,000,000 "	376,000,000
Humboldt	1804	1,850,000,000 "	347,000,000
Spain by Musquiz,	1782		80,000,000
Austrian empire by Hassel	1807	80,000,000 florins or	39,000,000
Russia by Mr. King	1804	56,000,000 roubles or	42,000,000

NO. III.

Mr. Storch, (in his political economy, published in 1814,) after carefully collecting and commenting on the estimates of

different authors of the specie in the different countries of Europe, estimated the amount as follows :—

Great Britain, - - - - - - -	$90,000,000
France, - - - - - - - -	420,000,000
Spain, - - - - - - - -	80,000,000
Austria, exclusive of about $13,000,000 cop'r coin,	26,000,000
Prussia, in 1805, - - - - - -	42,000,000
Russia, exclusive of $18,000,000 copper coin,	34,000,000
Other countries of Europe, - - -	628,000,000
Total of Europe, - - - - -	$1,220,000,000

We have now much more accurate statistics and ample materials for estimating the amount of specie exported to Asia during the last two centuries, and the amount of the several countries of Europe and America at different periods, than were possessed by any of the authors named. As the banks of the United States are numerous, the greater part of the specie is kept in their vaults, and the government has kept a record of the exports and imports of specie since the 30th of September, 1820, we have the means of estimating the amount of specie in the United States with greater accuracy than it can be estimated in any other country. And as the amount of circulating money needed in every country depends on the amount and value of its productive industry and commerce, the relative amount of money in circulation in different countries can be determined with a reasonable degree of accuracy.

The following table of estimates is formed partly from official estimates, and the estimates of numerous visitors, and partly by comparing the condition and the amount and value of the productive industry and commerce of all the nations of Europe and America with each other, and calculating the relative amount of circulating money which each probably employs, as indicated by its condition.

NO. IV.

Estimates of the population and circulating money, including specie, bank notes, and paper money of all kinds (over and above the depreciation of the paper money) in America and each country of Europe, and the amount to each person at the end of the year 1800.

Great Britain, - - - -	$10,400,000	$156,000 000	$15
Ireland, - - - - - - -	4,800,000	38,400,000	8
France, - - - - - -	27,300,000	327,500,000	12
Holland and Belgium, - - -	5,000,000	66,000,000	13
Spain and Portugal, - - -	13 500,000	100,000,000	7 1-2
Italy, - - - - - - -	20,000,000	160,000,000	8
German Austria, - - -	13,000,000	78,000,000	6
German States, - - - -	12,000,000	84 000,000	7
Prussia, - - - - -	11,000,000	66,000,000	6

Denmark, Sweden, and Norway, -	4,000,000	20,000,0000	5
Russia, Hungary, Turkey, and other eastern nations of Europe, - -	62 000,000	233,000,000	3 3-4
Total of Europe, - - -	183,000,000	1,328,000,000	...
America and West Indies, - -	24,000,000	108,000,000	4 1 2
Total, - - - -	207 000,000	1,436,000,000	7

Mr. Jacob estimated the coin in Europe at the discovery of America at £34,000,000 sterling, and Mr. King estimated the whole amount of gold and silver in Europe in 1516 at £45,000,000 sterling, over two-thirds of which, perhaps, was coin. (See tables V. and VI. of section 4.)

NO. V.

Estimate of the produce of the mines of Europe and America, the amount used in the arts and exported to Asia, and the amount made into and remaining in coin and bullion at different periods. (*See Ante-Table iv., of section* 4.)

Amount of coin in Europe in the year 1500, . - - - - - - - -	$156,000,000
Produce of the mines of America during the 16th century, - - - - -	680,000,000
Produce of the mines of Europe and imported from Africa, - - -	40,000,000
Total, - - - - - - - - - - - -	$876,000,000
Wear and loss of old coin, one-fourth part, - - - - - - - - -	$39,000,000
Exported to India, China, and other parts of Asia, - - - - - - - -	200,000,000
Used in the arts to make into plate, watches, jewelry, gilding images, &c., in churches, and other utensils and ornaments, - - - - - - -	240,000,000
Made into coin, (250,000,000)—wear and loss of new coin 1-10th part, - -	28,000,000
Amount to be deducted, - - - - - - - - - - - -	$507,000,000
Specie and bullion in use in Europe and America, Dec. 31st, 1600, - -	$369 000,000
Produce of the American mines during the 17th century, - - - - -	1,466,000,000
Produce of the mines of Europe, and gold dust imported from Africa, -	70,000,000
Total, - - - - - - - - - - - - - - - -	$1,905,00 ,000
Wear and loss of the old coin, one-fourth part, - - - - - - - - -	$92,000,000
Exported to Asia over £1,000,000 per annum, - 4 - - - - -	500,000,000
Used in the arts, - - - - - - - - - - - - - - - -	600,000,000
Made into coin, ($436,000,000)—wear and loss of new coin, 1-10th part, -	43,000,000
Amount to be deducted, - - - - - - - - - - - -	$1,235,000,000
Specie in use, December, 31, 1700, - - - - - - - - - - -	$670,000,000
Produce of the mines of America during the 18th century, - - -	2,650,000,000
Produce of the mines of Europe, and gold dust from Africa, according to Jacob, less one-eighth part, - - - - - - - - - - - - -	366,000,000
Total, - - - - - - - - - - - - - - - -	$3,686,000,000
Wear and loss of old coin, one-fourth part, - - - - - - - - -	$167,000,000
Exported to Asia, £2,000,000 per year, - - - - - - - - - -	960,000,000
Used in the arts, over £2,600,000 per year, - - - - - - - - -	1,260,000,000
Made into coin, $796,000,000—wear and loss of new coin, 1 1-10th part, -	80,000,000
Amount to be deducted, - - - - - - - - - - - -	$2,467,000,000
Specie in use, December 31, 1800, - - - - - - - - - - -	$1,219,000,000
Produce of the mines of America to December 1810, about - - - -	398,000,000
Produce of the mines of Europe, Siberia, and gold dust from Africa, per Humboldt and Jacob, - - - - - - - - - - - - -	42,000,000
Total, - - - - - - - - - - - - - - - -	$1,659,000,000
Wear and loss of old coin at 3 per cent., - - - - - - - - - -	36,000,000
Exported to Asia, £2 500,000 per annum, - - - - - - - - -	120 000,000
Used in the arts, £3,500,000 per annum, - - - - - - - - - -	168,000,000
Made into coin and bullion, $152,000,000, - - - - - - - - -	.....
Amount to be deducted, - - - - - - - - - - - -	$324,000,000
Specie in use, December 31, 1810, - - - - - - - - - - -	$1,235,000,000
Produce of mines of America to December, 1830, - - - - - - - -	390,000,000
Produce of Europe, Russia, &c., - - - - - - - - - - -	110,000,000
Total, - - - - - - - - - - - - - - - -	$1,835,000,000

Wear and loss of old coin, 5 1-2 per cent.,	$73,000,000
Used in the arts, £4,000,000 per year,	384,000,000
Exported to Asia, £2,000,000 per year,	192,000,000
Amount to be deducted,	$649,000,000
Specie in use, December 31, 1830,	$1,186,000,000
Produce of mines of America to December, 1840,	190,000,000
Produce of mines of Europe, Russia, &c.,	75,000,000
Total,	$1,451,000,000
Wear and loss of coin, 3 per cent.,	$35,000,000
Used in the arts, £4,500,000 per year,	216,000,000
None exported to Asia.	
Amount to be deducted,	$251,000,000
Specie in use, December 31, 1840,	$1,200,000,000

All the accounts and estimates seem to agree that most of the American mines were growing less and less productive, and the total supply of the precious metals much less annually from 1820 to 1840 than it was half a century since, while the population of Europe and America, and the wants of the commercial world, as well as the world of fashion, are rapidly increasing.

Since 1840 there has been a great increase in the production of the mines of Russia; which, together with the amount of gold procured during the years 1848 and 1849 from the mines and sands of California, and the prospect of an immense increase from the latter source, renders it probable that the production of the precious metals may, for some years to come, equal, and perhaps exceed, the consumption and the increase of population in the civilized world.

It should be remarked that prior to the nineteenth century, and, to some extent, also, as late as 1816, large quantities of cotton and silk goods were imported from India into Europe and America, and large sums of coin exported to India in payment, as well as to China and the East India Islands, to pay for tea, spices, &c. M. Humboldt estimates that at the commencement of the present century, more than half of all the produce of the American mines, over twenty-five millions of dollars annually of gold and silver, were exported to Asia. Since the machinery of Great Britain, and the prodigious increase of the manufactures of that country, have driven the cotton goods of India not only out of the markets of Europe and America, but to a considerable extent out of their own markets, and pretty much ruined and broken them down; and the British have also battered down the barrier which excluded the products of Europe and America (except specie) from the markets of China, the drain of the precious metals to China, India, and all Asia, has ceased or nearly so. It appears from the reports of the Secretary of the Treasury of the United States, that the balance of gold and silver exported to China and other parts of Asia, over and above the amount imported from them, have been as follows:—During the year

ending September 30, 1835, it amounted to $1,995,140; in in 1842 it amounted to $837,094; in 1844 to $574,000; and in 1845 to only $239,874. The exports of the manufactures of Great Britain to China, as well as India and Turkey, have been so great since 1830, that very little specie has been exported from Europe to Asia, and for ever hereafter we may expect the balance to be the other way, and that specie will be exported from China and other parts of Asia to Europe.

Let us compare the population of Europe and America at several different periods with the estimated amount of coin at these periods, in order to see how their increase compares with each other; this will enable us to judge of the probable effect of the increase or decrease of coin upon the prices of commodities in the commercial world.

NO. VI.

ESTIMATES OF THE POPULATION OF EUROPE AND AMERICA (EXCLUSIVE OF WANDERING INDIANS) AT DIFFERENT PERIODS; ALSO, THE AMOUNT OF COIN AND BULLION IN USE, AND THE AMOUNT TO EACH PERSON.

Years.	Population of Europe.	Population of America.	Total Population.	Total specie.	Am't to each person.
1500	104 millions.	.....	104 millions.	$ 56 millions.	$1 50
1600	117 "	6 millions.	123 "	369 "	3 00
1700	138 "	12 "	150 "	670 " nerly	4 50
1800	183 "	24 "	207 "	1 219 " nerly	6 00
1810	195 "	28 "	223 "	1,335 "	6 00
1830	221 "	39 "	260 "	1,186 "	4 56
1840	235 "	45 "	280 "	1.200 "	4 25

The Bank of Venice was the first banking establishment in Europe. It was founded in 1171, and subsisted till the subversion of the republic in 1797. It was a deposit bank only, and issued no notes.

The Bank of Amsterdam was established in the year 1609, and that of Hamburg in 1619; they were deposit banks, only, and issued no notes.

The Bank of England was incorporated in the year 1694, and was the first bank which ever issued notes, or bills to circulate as money, in the ordinary transactions of trade and commerce. The Bank of Scotland was established in 1695, with a capital of but £100,000, which was raised to £200,000 sterling in the year 1744, and in 1804 to £1,500,000. The original capital of the Bank of England was but £1,200,000 sterling, consisting of a loan of that amount to the government. These two were the only banks (if we except some private companies and bankers in London) that ever issued notes for a circulating medium, or money, and as a substitute for coin, prior to the 18th century, and the credit of the notes of the Bank of England was at first so poor, that the bank became involved in difficulties in 1696, and was compelled to suspend payment of its notes in coin, and the notes fell in value, and passed at a heavy discount. The amount in circulation February 28th, 1700, was but $938,240, and in August of the same year only $781,430.

It is fair to assume that the circulating medium of the commercial world was scarcely increased at all by bank notes, or paper money in any shape, in the year 1700, at the commencement of the 18th century, and that the whole amount of coin and bullion then in use in Europe and America was less than $700,000,000.

The eighteenth and the nineteenth centuries have been fruitful in all sorts of schemes and projects of a financial character, to make credit, and too often the credit of bankrupts, spendthrifts, knaves, and visionary speculators, a substitute for coin. One of the first, greatest, and most ruinous, was the great Mississippi scheme, got up at Paris, by John Law, the forepart of the eighteenth century. After this great bubble burst, France confined herself to a specie currency until the issue of the goverment assignats, during the French revolution, and no bank for issuing notes was established in France until the bank of France, in 1803, to which was granted the exclusive privilege of issuing notes for a period of forty years.—Mr. Jacob estimated the circulation of the Bank of France in in 1810, at but two millions sterling, and in 1830, at nine million pounds sterling. This bank was slow in acquiring the public confidence, so as to get much circulation for its own notes.

The Netherlands had no money but coin until the establishment of the Bank of the Netherlands in the year 1814, with a capital of 5,000,000 florins, and the exclusive privilege of issuing notes for twenty-five years. Mr. Jacob says its circulating notes then, (1830,) were not supposed to exceed one million sterling.

Banks have also been established at St. Petersburg, Vienna, Berlin, and Copenhagen, besides numerous other banks in the British dominions, and in the United States of America.

Mr. Jacob remarks that Russia was then (1830) the only country of Europe which had not returned to specie payments. When bank notes were first issued, and the quantity small, the rouble was worth about three shillings and four pence sterling, or seventy-five cents, and was of the same value as the Russian silver coin of that name. The increased quantity gradually depreciated the metallic value of the paper, till one silver rouble was worth four of paper. It had nearly attained this low value in 1810, when the paper roubles amounted to 577,000,000. It was nearly the same, but of somewhat greater value in 1830, though the amount had increased to 639,000,000 roubles. He estimates their exchangeable value, in 1810, as equal to 23,000,000 pounds sterling, and in 1830 to £25,250,000.

ART. III.—GAS LIGHT—PAINE'S LIGHT—ITS VALUE COMPARED WITH COAL GAS.

The following highly interesting and instructive letter from Professor Prout, of this city, appeared in yesterday morning's *Reveille*. The well known reputation of the Professor for science and ability, will assure every one of the fidelity with which the experiments have been conducted, and give just weight to his conclusions :—

Editor of the Reveille: Having seen in the Scientific American several communications on the subject of Paine's Light —one above the signature of L. A. Hudson, and another above that of George Mathiot, Electro-Metalurgist to the U. States Survey—in which it is stated that they had succeeded in producing a light equal to that of the coal gas, by transmitting hydrogen through oil of turpentine,—I was induced, at your suggestion, to try the following experiments, which may be considered as virtually the same as those performed by these gentlemen, but with very different results.

I was careful, in these experiments, to see that the hydrogen was as pure as that ordinarily made from granulated zinc and sulphuric acid, diluted with a sufficient quantity of water, and that the mechanical arrangements were perfect in all their details.

In Mr. Hudson's communication, it is stated that he used the electro-magnetic machine, in decomposing the water. In my own experiments, I used the zinc with sulphuric acid, believing, as I do, that the mere mode of preparing the gas, has little or no influence on its physical or chemical relations. Mr. Hudson attributes his success to having burnt the hydrogen, passing through the oil of turpentine under considerable *pressure*. This I did, by increasing the action in the generating bottle, to a point where it was not safe to increase it further: and the experiment was varied, by putting the full pressure of a gasometer of ten gallons upon the current. In both cases, though the light was as large as that from an ordinary gas-burner, the illumination was very feeble, in fact nothing more than we should expect from the combustion of hydrogen, with some admixture of the vapor of turpentine. Mr. Mathiot inferring that, in the modification of the old experiment of the philosophical candle, in which hydrogen is generated under a stratum of turpentine, that the turpentine is either decomposed or combines with the hydrogen, led the hydrogen off by a bent tube, and caused it to pass through the turpentine contained in a separate bottle.

In the philosophical candle, the oil of turpentine is probably decomposed by the sulphuric acid, or the hydrogen, in its nas-

cent state, or state of being formed, has the power of combining with it. Formed under these circumstances, as is well known, the hydrogen acquires more brilliancy in its combustion. But the questions at issue are, whether, after being fully formed and led out of the generating bottle, it will combine with the oil of turpentine, by being merely transmitted through it, or whether, in its passage, it will acquire a new constitution, by its mere contact with the oil of turpentine, without effecting any material change on the composition of the latter. This is what is termed catalytic action, and is the principle to which Mr. Mathiot resorts in explanation of the phenomena which he witnessed in his experiments.

He says, that by simply passing the gas through oil of turpentine, he succeeded in producing a light of high illuminating power, between the intensity of a Drummond light and that of a solar lamp.

In repeating this experiment, by passing a full and steady current of hydrogen from a large gasometer, through, first, common oil of turpentine, and then through a purified oil prepared for the occasion, both of which were placed in a *long* glass jar, no illuminating power was given to hydrogen burnt with an ordinary bat-wing burner.

Though the flame from the pressure upon the hydrogen was as large as that manifested in the full combustion of the coal gas with the same jet, it was feeble in comparison, and appeared to result from the combustion of hydrogen alone, except when a portion of turpentine vapor would escape with it, at which time, a momentary dull yellow color was imparted to the flame.

These experiments were varied under low pressure, and high pressure, with hydrogen formed for several hours, and that formed at the time of the experiment, and uniformly with the same results. As I used every precaution in obtaining pure materials to operate upon, and made all my mechanical arrangements perfect, I am at a loss to account for results so opsite to those which were said to have been obtained under similar circumstances. In order to test the plausibility of some agency of a catalytic action, I varied the experiment by substituting other oxides of hydro-carbon for the oil of turpentine. Alcohol and oil of turpentine, or spirit gas, imparted to the flame only feeble illuminating power. Alcohol alone, and spirits of nitric ether, furnished the same result; but sulphuric ether presented a flame of nearly as much intensity as that from ordinary coal gas. In all these cases it is obvious, from the manner in which the combustion takes place, that there is no catalytic action involved in the production of the result, and that the effect is alone due to the admixture of the vapors of these volatile substances with the hydrogen.

It devolves upon Mr. Mathiot to show why the same result should not uniformly follow the same experiment performed under similar circumstances and with the same agents. The circumstances were so much varied with different specimens of the same substances, that it is probable that *some illumination* would have followed at least in some of the numerous experiments performed.

We are inclined to believe, if anything is accomplished in giving illuminating power to hydrogen, that we will be compelled to go back to the old experiment of the philosophical candle for the principle; that is to combine the hydrogen, in its transition or nascent state, with the carbon. Hydrogen, it is well known, has many affinities at this time which it does not possess when fully isolated and set free. It combines readily with zinc, antimony, arsenic, sulphur and phosphorus under these circumstances, and there is no reason why its affinity for carbon may not become as fully established.

H. A. PROUT, M. D.

[It is remarkable with how much indifference the people of Missouri seem to regard the action of Congress, in rejecting the bill providing for a grant of land to aid in the construction of railroads in this State. Our representatives in Congress have discharged their duty — they have urged our claims with zeal and ability — and having been overruled, it is the duty of their constituents to give free expression to their sense of the illiberal and unjust course of those who opposed the adoption of this measure.

When we reflect that the bill before Congress provided for doubling the present price of a sufficient quantity of the public lands, near the works of improvement, to indemnify the government for the quantity granted; and, that in addition to this, these improvements would bring into market large quantities of land that would not otherwise sell for one dollar and twenty-five cents per acre, for many years, we can find no rational excuse for those who opposed the measure. And hence the conclusion is forced upon the mind, that those who voted against it were actuated by a desire to retard, not only the improvement of our own State, but of the entire region west of the Mississippi also.

We commend the following judicious and well timed article

to the consideration of our readers; and trust that active measures will be taken by the people of Missouri, to place their claims to a grant of public lands, for purposes of internal improvement, upon such grounds as will secure the favorable action of Congress at its next session.]—*Editors.*

ART.—VI.—RAILROAD LAND BILLS—THE PACIFIC RAILROAD.

The land bill making a grant of land to the States of Illinois, Mississippi and Alabama, in aid of the construction of a railroad from Mobile to Chicago has become a law, and we congratulate the friends of public improvements in the West on the probability now of a vigorous prosecution of that important line of railroad. The other land bills in which the citizens of this State are more immediately interested, making similar grants to the State of Missouri, in aid of the construction of the Hannibal and St. Joseph railroad, and of the Pacific railroad, were rejected in the House by considerable majorities, for reasons which we do not clearly comprehend, and which it would be unprofitable to scrutinise now. The failure of the last mentioned bill, has undoubtedly severely disappointed the friends of the Missouri "Pacific Railroad;" that enterprise in which the citizens of St. Louis and of the country south of the Missouri river, are so deeply interested; and it has disappointed them the more, that the success of the bill was looked for, confidently, and calculated on. Understanding that the land bill in aid of the Mobile and Chicago railroad would pass, it was fairly inferred that the reasons which secured the passage of that bill would equally insure the passage of the two bills applicable to this State. The next session of Congress is, however, at hand, and it behoves the friends of this enterprise and of the Hannibal and St. Joseph Railroad, and all friends to public improvement for its own sake, to consult together and take some practical steps to ascertain the nature of the parliamentary difficulty, for such it must have been, by which these important bills were lost, so as to be prepared at the coming session, successfully to contend with it.

In regard to the "Pacific railroad," the surveys of which have been in active progress during the whole of this season, the effect of the loss of this bill may be to delay its definite location for a time; but this delay, if it should occur, could not extend beyond the termination of the next session of Congress, on the 4th March, 1851. The commencement of construction at St. Louis, would necessarily experience a similar suspension. This short delay does not, however, represent all the evil which this enterprise may suffer from the rejection of the land bill, unless our citizens rally and take some steps to make their existence better felt at Washington. In all undertakings

of this kind, it is the few who clearly perceive the advantages to the State and to private property, and who tenaciously advocate and labor for it until their endeavors are successful.—The many without whose aid they cannot proceed, flow to it with the flood which generally attends its first conception, but are equally ready to drop from it with every apparent ebb.—They have not equally studied its effects and creative properties; the conviction of its advantages is, with them, one of credit rather than personal examination, and any occurrence increasing the difficulties of the project, tends to excite their distrust and shake their confidence. In the State of Missouri, all are so much interested in the commencement and vigorous prosecution of some one leading railroad, which shall at the same time give life to the resources of the section through which it passes, and encouragement and credit to similar roads in other sections of the State, that we may look for less hindrance from this timidity, than usually prevails in the commencement of works of the same extent. Its existence, however, more or less, is one of the discouraging features of all enterprises of this kind, and the present occasion is one to call it into life. In connection with the Pacific railroad, we have thus far been wonderfully exempt from it. The directors of that railroad must have felt encouraged and gratified, by the hearty support which they have received at every point coming within the influence of this proposed road. This land bill is the first discouragement that has appeared. It is an important but not an insurmountable one, and will call forth, we trust, that personal action which the occasion demands. Upon the successful progress of this, the first railroad enterprise which has been earnestly taken hold of by our citizens, hinges the general faith in our ability as a State, to work out, like other neighboring States, the relief of our internal resources, by a prudent and successful system of rapid communications thro' the leading sections of the State, settling and cultivating the idle lands, opening their produce to the markets of the south and east, enabling the capital now lying dormant in the mining districts to procure a return, creating new establishments for the reduction of the metals, and enlarging, vastly, the trade and commerce of our cities.

If this road languishes now, our more enterprising neighbors to the east of the Mississippi, will look northward, from Springfield towards Carthage and Kanesville, for a passage to the western country, and a connection with the great railroad enterprise of modern days, beyond the limits of this State, for it cannot be possible that the railroad from Hannibal to St. Joseph will be constructed, if the Pacific railroad, with the wealth and interest of St. Louis to back it, fails to be sustained.

But that it will be sustained admits of but little doubt, if our citizens and the friends of the road sufficiently value their own interests to secure the earnest advocacy of their just claims at the coming session of Congress, and thereby the passage of the land bill then, as the corner stone, on which depends, in a measure, the speedy construction of their railroad. Failing in that, there remains, doubtless, in this city, and in the southern counties of the route, ample means to make up the deficiency and build the road — but will that means be forthcoming with the emergency. Will not rather the discouragement attending this loss, and the hope that another session may correct it, lead to sluggish and temporising action, extending the time of construction over double the number of years necessary under better influences.

On the supposition that justice will, under proper representations prevail, and that a land bill in aid of the Pacific railroad will yet become a law, we propose to make a few remarks on certain provisions of the land bills of the late session.

The broad principle of these bills disclaims the propriety of affording aid in the shape of lands to any railroad company, without providing for the return, in some shape, of an equivalent in value. The correctness of the principle is conceded, but the manner of its application to this road and to the Hannibal road is objectinable. In strict fairness the government should not seek to secure more than an equitable consideration for the present money value of the lands granted, and in policy it could well afford to accept of less, for the sake of hastening the completion of any link of that westerly communication, which by bringing it near to the Pacific coast and to the intervening lands now in possession of the Indians, places within its immediate practical control, countries which are now all but beyond its efficient reach. This policy has been liberally acted on already, in the case of the lines of steam ships to Chagres and to Europe.

By one clause of the bill, the government arranges for the payment of the lands donated, by doubling the price of the alternate sections reserved. These reserved sections are thus made to pay for the lands conferred. By another clause the government further pays itself by requiring of the company the transportation of any "property or troops of the U. States," "free from toll or other charge." An explanation of this last provision has been given, to which we will hereafter advert.

This double payment shows, it must be confessed, a cautious protection of the money rights of the government, and cannot be attacked as a liberal encouragement of great public improvements.

We contend that in the case of this particular road and also of the Hannibal and St. Joseph Railroad, looking on both as

forks of a great road yet to be made to the Pacific, the government could well afford to grant them lands without providing for any equivalent on the face of the bill, the advantage in the shape of rapid and convenient transport and communication, and of a speedy settlement of the public lands, forming ample compensation on the narrowest grounds of trading practice.

The liberality contended for is one which is clearly for the interest of the giver as well as the receiver. It is one, as regards the land which is familiar in both State and county legislation, where, in the construction of new roads, the benefit conferred by the road or railroad is directed to be considered, in estimating the value of the lands applied to the purposes of the road. It is a common provision in railroad charters in the eastern States, that the damage done to lands in passing over them shall be compared with the benefit accruing to the land, and payment made only where that damage shall appear to exceed the benefit, and this provision is constantly acted on in land appraisements there. It is true that the U. S. does not receive the whole of this benefit as in the case of the settler, but it receives a large share of it in two ways. In the rapid sale of land on either side of the railroad which would otherwise have remained unsold, and have been disposed of after a a time at reduced rates, and in the reduction of the annual outlay attending the action of land offices and land agents. But these considerations we look upon as entirely secondary to the more important one of placing the central government in prompt communication with its distant States and territories.

And as the Pacific railroad of Missouri fulfils to the extent of 300 miles the last condition, as a link or branch of the great road to San Francisco, we are led to speak of the proposed railroad to the Pacific ocean, which, to distinguish it from the Pacific railroad of this State, will be named here the California railroad.

The one prominent difficulty attending the construction of a railroad is usually that of the ways and means. The capital once obtained, the other difficulties of execution gradually vanish.

The California railroad project presents *two* prominent difficulties, which discussion will doubtless bye-and-bye solve.—The first is the immense capital required. The second is the organization of a company or companies, and a system of management and operation practically applicable to the construction of 2500 miles of one continuous route of railroad.

We hold that when a fair remuneration can be demonstrated, or predicated on reasonably just grounds, capital will be forthcoming, and a close scrutiny of the statistics of the last two years in connection with California, taking into consideration the still undeveloped commerce of the Pacific ocean, will pro-

bably satisfactorily show that a fair return for the capital required could be depended on.

The second difficulty, is at this moment the great difficulty of the project. With a liberal grant of land from Congress, and ample means provided for the construction of the railroad, the efficient application of the means under proper control and within a limited time, would still form the problem to be solved: A clear perception of a business like mode of going to work, would go far to untie the knot which at present, more than any other feature of this great project, perplexes business men.

Independent of the value of this project as a private enterprise, and its pressing importance to California and Oregon, the Government in the execution of its bureau duties is deeply interested in its speedy accomplishment. It is on account of this interest of State, of convenience and of economy on the part of the government proper, that it can afford to make large concessions whether in the shape of public lands or otherwise, to secure through private means the execution of this project, and this without further return than the important facilities which the road will afford it. A connection with two most important States and their sea-borde on the Pacific, of six days instead of six weeks; the means of concentrating troops on such short notice upon any one of the Indian tribes; the opening of lands now beyond the reach of settlement to emigrants, and the commerce and security resulting thence. Are not these benefits worth more than any land which has been proposed to be granted. The more closely the considerations indicated are scrutinised, the more clearly will they be perceived to be advantages cheaply procured at the expense of any donation of land which the government will consent to give.

The distance of California and Oregon from the seat of government must render its control over the operations of its agents there, very unsatisfactory, and must oblige it to trust them with a discretionary power about as extensive as if they were established in the Mediterranean instead of in the United States. At Washington, the evils attending the lapse of time in receiving answers to important communications must be constantly felt in the State Department and in the Army and Navy Departments. When there is no remedy, such evils are submitted to—where a remedy is at hand at a reasonable expense t will be coveted and procured. To knit herself to her colonies, and have prompt communication with them, England created a steam post office marine at great expense but with most satisfactory results. Her relation with the Canadas now as respects time, is as intimate, as has been hitherto the city of Washington with Pensacola or New Orleans during the winter months, and greatly more intimate that those of our government with the territories and States west of Missouri. Acting on the

same principles, our own government has at great expense established lines of steamboats to Chagres, and on the Pacific to San Francisco, and has in this way placed herself within six weeks and two months of California and Oregon. But when these States become more densely settled, and a mercantile marine belonging to the Pacific coast is established on the Pacific in communication with China and Australia, the inconvenience attending this lapse of time in corresponding with the seat of government will become very serious. Members of Congress from these States will practically know little of the movements of their constituents, or their constituents of their congressional action, and unless that mode of communication is by that time in operation, which only can remedy the evil and bring all parties into intimate relation, it will become the interest, and may become the inclination of the States and territories on the Pacific slope, to form a separate government to which they can have ready access and by which their peculiar interests can be more promptly furthered.

Considerations of this character will affect the interior of Nebraska, New Mexico and Utah, as well as the extreme western coast. These inland territories are even more beyond the reach of regular communication than the California coast.

It is evident then, that the government is as pressingly interested, as are the Pacific States, in the construction of a railroad across the continent to the California coast, and that this railroad may become the necessary key to the permanent connection of the Atlantic and the Pacific States.

Now the Pacific railroad of this State, and the Hannibal and St. Joseph railroad will each form links or rather forks of the important route whose title to government support we have sought briefly to explain. Every mile of this great route made by private enterprise deserves of Congress that encouragement in the shape of public lands which the important service rendered, in exchanging hours for days, so eminently entitles it to. If, then, beyond the Missouri line the government can afford as we have contended, to contribute without drawback, a portion of land, for the sake of a speedy railroad transit of its business across the continent; for reasons as cogent, can it make a like contribution for a like service on the first link of such a railroad within the Missouri line. We hold, that the advantages received more than fully compensate (to a government) for the lands given, and that other provisions for self payment are neither demanded by justice nor policy, and indeed discourage to the extent of such provisions, works in whose speedy accomplishment the government is nearly concerned. They render such works less attractive to private capital in sections of country where capital is not in excess, they interfere hence with the rapidity

of their construction, and delay the advantages which they are calculated on all hands to afford.

The provisions in the land bills which appear to us objectionable, read as follows—we copy from the bill granting lands to the State of Illinois, Mississippi and Alabama, on the supposition that the provisions of the rejected Missouri bills were the same. "Section 3. And be it further enacted, That the sec-"tions and parts of sections of lands, which by such grant shall "remain to the U. S. within six miles on each side of said road "and branches, shall not be sold for less than double the mini-"mum price of the public lands when sold."

Here is the first clause by which the government repays itself for the lands granted.

But one important division of the returns of the railroad will be dependant on the occupation and culture of these lands.—To raise the price is to retard their settlement and reduce proportionally the local freight and passenger returns of the road. The lands may be taken up by those who will hold them for speculative sale, but actual settlers who would otherwise crowd to the neighborhood of the railroad will be deterred by the double price.

The other clause referred to reads thus—"And the said rail-"road and branches shall be, and remain a public highway, for "the use of the government of the United States, free from toll "or other charge upon the transportation of any property or "troops of the United States."

This clause obliges the railroad company to carry the property or troops of the United States *"free from any toll or other charge."*

We have been informed by the representative from this district, that the construction which the reading gives is understood differently at Washington, and that the intended meaning of the clause is simply that the Railroad Company shall not be at liberty to refuse to carry the property or troops of the U. S. (as in the case of the mails,) the usual freight being charged.

If such be the understanding at Washington, there will be no difficulty in having the clause corrected, and, to avoid future collision, it is important that this should be done—as it reads now, the company is clearly bound, if insisted on by any official (and it would be his duty to insist on it) to carry the U. S. property or troops free. The government had already paid itself, superfluously as we think, in the case of these roads bearing to the Pacific, by the provision doubling the price of the lands reserved, and this would be a further payment of equal if not greater amount. We have ascertained at the Quartermasters office, through the kindness of the officer in charge, that the amount disbursed on the Missouri river this season, from

3d May to 15th Oct. amounted in round numbers to $30,000, for freight of troops and stores on the Missouri river going West. In the year ending 30th Oct. 1850, the amount is assumed to be $40,000, including the payments for freight and troops east, it would doubtless reach $50,000. This is an important item, and one which will be constantly increasing. We trust that the provision in the bill which throws it away now, will be so worded as to divest its meaning of all uncertainty. The clause which requires the transportation of the U. S. mail, concedes that the company shall be paid for such duty, and this clause in regard to property and troops might be worded so as to insure their conveyance by the company without delay, liable to the tariff of charges applicable at the time to individual freights.

We hope that the importance of the subject will secure to our remarks a better attention than their crudeness may entitle them to. We write under a conviction that the difficulty in regard to the passage of the land bill for this railroad is of a graver character than is likely to be believed, and that if it is lost at the next session it will be from a mistaken impression, of the causes which led to that failure being so easily controlled, as to require no particular preparation ahead to understand and meet them.

ACT OF CONGRESS GRANTING LAND IN AID OF THE CHICAGO AND MOBILE RAILROAD.

That our readers may more fully appreciate the views and arguments contained in the foregoing article, we publish the entire act of Congress granting the right of way &c., to Illinois and other States for a road from Chicago to Mobile.

[EDITORS.

AN ACT granting the right of way, and making a grant of land to the States of Illinois, Mississippi and Alabama, in aid of the construction of a railroad from Chicago to Mobile.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the right of way through the public lands be, and the same is hereby, granted to the State of Illinois for the construction of a railroad from the southern terminus of the Illinois and Michigan canal, to a point at or near the junction of the Ohio and Mississippi rivers, with a branch of the same to Chicago on

Lake Michigan, and another to the town of Galena in said State, with the right, also, to take necessary materials of earth, stones, timber, etc., for the construction thereof: Provided, that the right of way shall not exceed one hundred feet on each side of the length thereof, and a copy of the survey of said road and branches, made under the direction of the legislature, shall be forwarded to the proper local land offices respectively, and to the general land office at Washington City, within ninety days after the completion of the same.

Sec. 2. *And be it further enacted*, That there be, and is hereby, granted to the State of Illinois, for the purpose of aiding in making the railroad and branches aforesaid, every alternate section of land designated by even numbers, for six sections in width on each side of said road and branches; but in case it shall appear that the United States have, when the line or route of said road and branches is definitely fixed by the authority aforesaid, sold any part of any section hereby granted, or that the right of pre-emption has attached to the same, then it shall be lawful for any agent or agents to be appointed by the governor of said State, to select, subject to the approval aforesaid, from the lands of the United States most contiguous to the tier of sections above specified, so much land in alternate sections, or parts of sections, as shall be equal to such lands as the United States have sold, or to which the right or pre-emption has attached as aforesaid, which lands being equal in quantity to one-half of six sections in width on each side of said road and branches, the State of Illinois shall have and hold to, and for the use and purpose aforesaid: Provided, that the lands to be so located, shall in no case be further than fifteen miles from the line of the road: And Provided further, the construction of said road shall be commenced at its southern terminus, at or near the junction of the Ohio and Mississippi rivers, and its northern terminus upon the Illinois and Michigan canal simultaneously, and continued from each of said points until completed, when said branch roads shall be constructed, according to the survey and location thereof: Provided further, that the lands hereby granted shall be applied in the construction of said road and branches respectively, in quantities corresponding with the grant for each, and shall be disposed of only as the work progresses and shall be applied to no other purpose whatsoever: And provided further, that any and all lands reserved to the United States by the act entitled "an act to grant a quantity of land to the State of Illinois for the purpose of aiding in opening a canal to connect the waters of the Illinois river with those of Lake Michigan," approved March second, eighteen hundred and twenty-seven be, and the same are hereby, reserved to the United States from the operations of this act.

SEC. 3. *And be it further enacted*, That the sections and parts of sections of land which, by such grant, shall remain to the United States within six miles on each side of said road and branches, shall not be sold for less than double the minimum price of the public lands when sold.

SEC. 4. *And be it further enacted*, That the said lands hereby granted to the said State shall be subject to the disposal of the legislature thereof, for the purposes aforesaid, and no other; and the said railroad and branches shall be and remain a public highway, for the use of the government of the United States free from toll or other charge, upon the transportation of any property or troops of the United States.

SEC. 5. *And be it further enacted*, That if the said railroad shall not be completed within ten years, the said State of Illinois shall be bound to pay to the United States the amount which may be received upon the sale of any part of said lands by said State, the title to the purchasers under said State remaining valid; and the title to the residue of said lands shall re-invest in the United States, to have and hold in the same manner as if this act had not been passed.

SEC. 6. *And be it further enacted*, That the United States mail shall at all times be transported on said railroad, under the direction of the post office department, at such price as the Congress may by law direct.

SEC. 7. *And be it further enacted*, That in order to aid in the continuation of said central railroad from the mouth of the Ohio river to the city of Mobile, all the rights, privileges and liabilities, herein before conferred on the State of Illinois, shall be granted the States of Alabama and Mississippi respectively, for the purpose of aiding in the construction of a railroad from said city of Mobile to a point near the mouth of the Ohio river, and that public lands of the United States to the same extent, in proportion to the length of the road, on the same terms, limitations and restrictions, in every respect, shall be, and is hereby, granted to said States of Alabama and Mississippi respectively.

ART. VIII—THE CANNELTON COTTON MILLS.

It is gratifying to observe that every year affords additional evidence to refute the opinion, long entertained by many, that the manufacture of cotton, wool, iron and other necessary commodities, cannot be profitably and permanently established in the southern and western States. It has been urged, as an argument, that owing to the want of capital and skill tn these States they could never compete, successfully, with New England, where both were abundant, and, where manufactures have already been established upon an extensive scale. These were plausable arguments: and, have doubtless tended to retard the commencement of manufacturing in the southern and western States for many years. But since a few sagacious and enterprising individuals have lead the way, and manufactures have gained a footing, men begin to discover new principles in political economy which, as it would seem, had not occurred to them before.

And now it is generally conceded, we believe, by all who have carefully examined the subject, that the surplus products of the southern and western States, constitute a capital, amply sufficient to enable them to enter into successful competition, with any part of the globe, in manufacturing many, if not all the great staple commodities which are required for the comfort and convenience of the human family. Nor has any material inconvenience been experienced, as far as we are informed, in obtaining both skill and labor wherever it has been required. The following extract from the "Economist," shows with how much alacrity the operatives of New England embrace the opportunity of removing to the west.

Operatives for the Cotton Mill.—We are informed by Messrs. Cole and Beebe, who have just arrived here from Providence, R. I., and who come to this place at the instance of Gen. C. T. James, for the purpose of superintending certain operations connected with the cotton mill, that arrangements are already concluded by which the entire corps of operatives necessary to run the mill, consisting of some three hundred and fifty hands or upwards, is secured. The alacrity with which eastern help agree to accept the offers extended to them on the part of the cotton mill company, is evinced by the fact that when it became known among them that their services would be needed here, there were in a few days, enough applications received for situations to operate three or four such mills as the one in this place. Those operatives who have stipulated to come hither, have been selected with great care; particular reference having been had to character and efficiency. The

agent, or superintendent of the mill, Mr. Cook, is expected here by the 1st of next month.

Here is a practical illustration of the economy for which we have been contending for many years — a transfer of the operatives to the raw material, provisions and bread-stuffs. By this simple and cheap operation, instead of going to distant markets, we bring them home to us, and locate them in our midst, at such points as are found most convenient and beneficial.

The members of the Cannelton Cotton Mill Company, are entitled to the gratitude of the people of the western States, for their efforts in building up a manufacturing city in the valley of the Ohio, and we sincerely hope that they will reap a rich reward for their labors.

ART. IX.—VALUABLE INVENTION.

Letters have recently been issued from the Patent Office at Washington, to Mr. E. G. Pomeoroy, of St. Louis, for an invention by which he professes to coat iron with copper so as to fit it for many useful purposes to which it is not now suited. By Mr. P's process, which is described as simple and cheap, the iron is first immersed in sulphuric acid or some other acid, to remove all impurities from the surface. When dry, it is dipped into clay sufficiently moistened to leave a thin coating on the iron. It is again dried over a brisk fire, and then immersed several times into molten copper. Enough of the copper adheres to the iron, it is said, to cover the surface completely, after which it may be passed through rollers to reduce it to the required thickness, and the result is a smooth surface, fully equal in brightness to pure copper or brass. The coating is perfect, and appears not simply to adhere to the iron, in a thin layer, but to be completely amalgamated with it, so that on hammering it, the coating does not separate, but remains as firm and durable as the iron itself.

The editor of the St. Louis Intelligencer, who has seen some samples of iron coated by this process, speaks of the matter as follows: "If this invention is what it purports to be, and what we believe it is, it will be found useful in an infinite variety of forms; in the sheathing of vessels — the roofing of houses — in steam boilers and chimneys—and a variety of other things. In the single article of spikes and bolts, and other fastenings for ships and vessels, the saving will be enormous. Iron spikes and bolts are much better and stronger than copper. Coated by this process they will resist the action of the salt water.— —*Cannelton Economist.*

COMMERCIAL STATISTICS.

The following Statistics of the Commerce and Manufactures of Cincinnati, are taken from "a review of the trade, commerce and manufactories of Cincinnati, for the commercial year ending August 31*st*, 1850."

IMPORTS AT CINCINNATI,

For five years, commencing September 1st, and ending August 31st, each year.

ARTICLES.	'45–'46	'46–'47	'47–'48	'48–'49	'49–'50
Apples, g. bbls.	17502	26992	28674	22109	6445
Beef,	2420	186	659	348	801
Beef, tcs.	787	5		27	15
Bagging, pcs.	6805	5561	79228	2094	324
Barley,	90225	79395	165528	87460	137926
Beans,	10202	11658	8757	3067	5565
Butter, bbls.	3339	6345	6625	7721	3674
Butter, firk. & kgs	6841	7090	6405	7999	7487
Blooms, tons	42770	2017	2203	9519	2545
Bran, &c., sks	3117	14594	1941	21995	49075
Candles, bxs	241	207	133	414	718
Corn, bush	57245	896258	361315	344810	649227
Corn Meal	9289 1-2	56775	29542	5504	3688
Cider, bbls	812	3261	2289	4346	453
Cheese, cks	808	483	164	281	97
Cheese, bxs	99059	120301	138800	143265	165940
Cotton, bales	4830	12528	13476	9058	8551
Coffee, sks	55468	59337	80242	74961	67170
Codfish, drums	220	292	311	515	464
Cooperage, pcs	105915	186186	179946	147352	201711
Eggs, bxs & bbl	2400	561	4035	4504	2041
Flour, bbls	202319	512506	151518	447844	231859
Feathers, sks	3514	2767	4467	4908	3432
Fish, sund. bbls	14613	16836	19215	18145	14522
Fisk, kgs & kits	996	2142	725	1059	1297
Fruit, dried, bush.	2566	82871	27464	38317	11800
Grease, bbls	426	482	585	878	1162
Glass, bxs	13088	18002	20281	33868	34969
Glassware, pkgs	11058	17121	15025	19209	25745
Hemp, bdls & bls	9167	26678	15349	11161	12012
Hides, loose	19781	24376	33745	23766	30280
Hides, green, lbs	5007	7513	10829	22774	14181

ARTICLES.	'45–'46	'46–'47	'47–48	'48–'49	'49–'50
Hay, bales	8092	7049	8036	12751	14452
Herring, bxs	2226	1603	4191	2960	3546
Hogs, head		38774	49847	52176	60902
Hops, bales		1064	645	238	799
Iron & Steel, pcs	130965	188125	197120	187864	186832
Do do bdls	31820	33463	34213	28889	55168
Do do tons	358 1-2	1685	826	1768	2019
Lead, pigs	25238	43575	39609	45544	49179
Lard, bbls	13898 1-2	21991	37978	28514	34173
Do, kgs	51870	22722	41714	48187	63327
Leather, bdls	1904	5069	6579	6975	9620
Lemons, bxs	1904	2185	3068	4181	4183
Lime, bbls	9212	32016	63364	61278	56482
Liq'rs, hds & ps	1222 1-2	3366	3115	4476	5802
Mdz & sund pkgs	967868	263944	381537	68582	308523
Do tons	2815	7941	7308	837	4540
Molasses, hd bbls	96510	27218	51001	52591	54003
Malt, bush	8758	12562	7999	29910	51982
Nails, kgs	33207	54918	59983	55893	83073
Oil,	3706	5663	6618	7427	5049
Oranges, bxs& bbls	2863	4137	5007	4317	6819
Oakum, bales	551	1100	1486	1423	1799
Oats, bush	106852	372127	194557	185723	191924
Oil Cake, lbs	1647462	2225988	2811793	1767421	27870
Pork & Bacon, hd	4089	5476	4420	6178	7564
Do do tcs	98	124	140	465	2358
Do do bbls	53969	40581	69828	44267	43227
Pork in bulk,	6037163	8027399	9643063	9249380	325756
Potatoes, bbls	12707	15829	22439	17269	13898
Pig Metal tons	13685 1-2	15868	21145	15612	17211
Pi'mo & P'r bgs	1741	3180	3455	1257	2558
Rye, bush	8582 1-2	41016	24336	22233	23397
Rosin, &c. bbls	2161	5004	11668	3298	12349
Raisins, bxs	12021	11990	22796	14927	11936
Rope, Twine, &c	4341	8002	7806	3950	3061
Rice, tcs	3140	1145	2494	3365	3556
Sugar, hhds	13710	16649	27153	22685	26760
Do bbls	4956	7196	11175	7575	13005
Do bxs	2184	5117	2928	1847	2467
Seed, flax, bbls	20494	25758	32260	22859	15570
Do grass	2759	4964	4968	5920	4432
Do hemp	400	290	214	510	314
Salt, sks	13147	56292	65265	76985	110650
Do bbls	111005	124360	94722	76496	114107
Shot,	580	1118	809	818	1447
Tea,	4255	5443	2931	7412	9802

ARTICLES.	'45–'46	'46–'47	'47–'48	'48–'49	'49–'50
Tobacco, hhds	5078	6200	4051	3471	2213
Do, bales	655	822	1229	1311	887
Do, bxs & kegs	6918	9241	14815	12463	17772
Tallow, bbls	1734	1748	2472	1829	1225
Wines, bbl &3-4 ck	2621	4006	2252	2663	6874
Do, b'kts & bx	1331	1419	2272	2101	4296
Wheat, bush	434486	590809	570813	385388	322699
Wool, bales	4471	2960	1943	1686	1277
Whisky, bbls	178336	184639	170436	165419	186678
Yarn, Cotton, pkg	4367	9271	6403	5562	3494
Do, bales	165914	146541	288095	262893	174885

EXPORTS AT CINCINNATI,

For five years, commencing September 1st, and ending August 31st, each year.

ARTICLES.	'45–'46	'46–'47	'47–'48	'48–'49	'49–'50
Apples, gr. bbls	3920	14444	8512	5824	3519
Alcohol	1615	1943	1771	3022	3302
Beef	8896	10367	14811	12523	7558
Do tcs	11301	7970	3615	9332	6625
Beans, bbls	2048	3782	1097	1685	2496
Brooms, doz	1514	5108	3760	3338	7265
Butter, bbls	1624	1348	2937	1272	964
Do, firk & kegs	20390	31194	28315	24398	24393
Bran, &c., sks		3842	3761	233	4322
Bagging, pcs	19716	8867	12632	15910	9353
Corn, sks		258198	53021	7176	57248
Corn meal, bbls	1258	88882	19999	3660	1179
Cheese, cks	604	1132	30	122	105
Do bxs	35459	70104	59374	55134	86902
Candles,	3757	16622	29189	39640	67447
Cattle, head	168	872	733	97	30
Cotton, bales		5019	6123	4009	1896
Coffee, sks		13037	18587	18909	22030
Cooperage, pcs	18388	41121	36924	55617	73637
Eggs, bbls	4787	10308	9450	5229	4246
Flour,	194700	581920	201011	267420	98908
Feathers, sks	29	4000	3736	3824	5380
Fruit, dried, bush	684	16077	5074	8317	1850
Grease, bbls	370	694	4268	6922	7597
Grass seed,	642	3967	2431	2387	2528

ARTICLES.	'45–'46	'46–'47	'47–'48	'48–'49	'49–'50
Horses, head	654	2026	1268	378	468
Hay, bales		327	94	1040	564
Hemp,		8733	5659	2198	1164
Hides, lbs		164930	60880	73029	62865
Hides, No.		12444	9024	7731	11225
Iron, pcs	2937	68905	127193	43025	54075
Do, bdls		9339	17351	7081	36245
Do, tons	1238	5646	6916	6270	5767
Lard, bbls	22747	49878	81619	37521	39192
Do, kgs	135008	150828	208696	140509	170167
Lard Oils, bbls	1650	6199	8277	9550	16984
Linseed Oil	455	6032	3878	3020	4879
Molasses,		9046	18332	17750	25878
Oil Cake, tons	2792	5246	4397	2274	743
Oats, sks	17944	140067	41676	212	5023
Potatoes, bbls	14956	34130	15787	7073	5283
Pork & Bacon hd	15287	31538	37162	39470	23529
Do, tcs	3874	7894	8862	10930	22477
Do, bbls	29302	137218	196186	186192	193581
Do, in bulk lbs	404426	3478850	759198	924256	2310699
Rope, &c. pkgs	13037	8723	5556	4369	3151
Soap, bxs	2708	10080	11095	311303	17443
Sheep, head	100	726	1400	522	
Sugar, hhds		4998	11559	8443	9650
Salt, bbls		65346	39656	39960	29509
Do, sks		4416	5057	5403	8301
Seed, flax, bbls	138	291	2785	808	333
Sundry mdz, pkg	23603	224957	341363	210049	615641
Do, do tons	2106	18179	16849	21466	11109
Do, liquors bbls	353	7193	9364	10913	11798
Do, manf'rs pcs	7975	22251	42412	94934	56810
Do, produce, pkg	1085	17879	28822	17609	10327
Starch, bxs	2499	5820	8177	7904	9491
Tallow,	3452	4543	5682	4975	4311
Tobacco, kgs&bx	1473	9718	9352	7497	6904
Do, hhds	3803	6011	3812	3309	4847
Do, bales		273	123	196	77
Vinegar, bbls	204	3814	2753	1288	2404
Whisky,	133220	183928	186509	13691	79540
Wool, bales		2452	2298	1109	2156
Do, lbs		36710	7037	10230	16841
White Lead, kegs					40294
Castings, pcs					54399
Do, tons					2385
Pork, bxs					13448

VALUE OF SPECIFIC ARTICLES

Imported into Cincinnati from September Ist, 1849, to August 3Ist, 1850, and same time last year.

	1849–'50.			1848–'9.
Articles.	Am't.	Av. price	Value dol.	Value dol.
Apples, barrels	6,445	1,75	11,278	49,730
Beef, do	801	9,00	7,209	3,132
Barley, bushel	137,925	75	103,443	56,849
Butter, barrels	3,674	27,00	99,198	189,994
Do, kegs	7,487	8,00	58,869	60,000
Blooms, tons	2,545	60,00	152,700	571,140
Corn, bushel	649,227	38	246,706	96,574
Cheese, boxes	165,940	2,40	398,206	347,834
Cotton, bales	8,551	45,00	384,795	317,030
Coffee, sacks	67,173	21,00	1,310,633	839,563
Flour, barrels	231,859	4,75	1,101,329	1,690,850
Hemp, bales	12,062	14,00	168,868	168,526
Hogs, head	410,000	6,00	2,460,000	3,075,000
Lead, pigs	49,179	3,40	167,208	143,495
Lard, barrels	34,173	13,00	444,246	399,196
Lard, kegs	63,327	2,40	151,984	90,228
Molasses, barrels	54,003	11,00	594,033	553,783
Oats, bushel	191,924	30	57,557	46,430
Bacon, hhds	7,563	33,00	249,579	247,120
Do tcs	2,358	12,00	28,296	5,812
Pork, barrels	43,237	8,82	381,350	354,403
Do lbs	13,257,506	3 1-4	497,156	462,469
Pig Metal, tons	17,211	26,00	447,486	405,912
Rice, tcs	3,556	24,00	85,334	80,760
Sugar, hhds	26,760	51,00	1,364,760	992,468
Do bbls	13,005	15,00	195,075	113,625
Do boxes	2,467	24,00	57,208	22,168
Wheat, bushel	332,699	91	302,756	289,041
Whiskey,	186,678	9,00	1,680,102	1,111,615
			$12,668,379	$12,423,717

NUMBER AND TONAGE OF BOATS BUILT AT CINCINNATI, DURING FIVE YEARS, ENDING AUGUST 31ST, 1850.

Years.	No.	Tonnage.	Years.	No.	Tonnage.
1845–'6	25	5,657	1848–'9	23	7,281
1846–'7	32	8,268	1849–'50	16*	4,560
1847–'8	29	10,233			

*Boats and Barges.

DESTINATION OF SPECIFIED ARTICLES.

Exported from the port of Cincinnati during the last three years, commencing September 1st, and ending August 31st each year.

	To N. Orleans.			To other down river ports.			To up river ports.			Via Canals & Railways.			By Flat Boats.	
	'47-48	'48-9	'49-50	47-8	48 9	49 50	47 8	48-9	49 50	47-8	48-9	49 50	48-9	49-50
Beef, barrels	13212	11628	16423	84	298	173	55	172	305	352	176	574	254	82
do. tcs.	3996	9012	6578	200	—	—	—	20	47				300	—
Butter, barrels	2064	806	762	340	259	177	—	4	1	318	109	2	94	22
do. firkins and kegs	23533	21711	22445	1588	1982	1582	431	100	—	1737	169	56	476	310
Corn, sacks	14995	6759	42119	2300	—	9079	9600	231	3420	18950	186	2642	—	—
Cheese	38110	31185	44388	16866	20972	38551	279	704	1516	573	1178	1123	1090	1326
Candles	13257	19040	41007	8325	11582	13197	5099	3121	7466	2457	5702	4782	255	995
Cotton, bales	—	10	—	39	20	9	2491	2047	977	3033	1932	910	—	—
Coffee, sacks	—	—	—	1049	1214	2807	6000	4155	4800	2307	13538	14423	—	—
Flour, bbs.	84910	150525	44290	14724	22033	25767	10738	12191	8360	17609	8635	3743	74036	16748
Iron, pcs.	10084	2482	1456	81226	22757	26035	2637	1146	2823	33240	16634	23761	—	—
do bdls	586	492	1932	6745	5009	18676	428	141	2580	4581	1439	13057	—	—
do tons	1334	656	89	1040	1304	777	1239	255	415	3364	4255	4490	—	—
Lard, bbls	74511	30112	34809	66	321	113	3007	1871	1341	4883	4603	1494	614	1435
do. kegs	174215	120164	110635	1905	2527	2390	10525	3911	11704	4367	265	16850	3702	28588
Lard Oil, bbls	4271	6018	9977	754	1049	927	2053	1802	2221	1108	1677	3843	—	16
Linseed, Oil, bbls	1513	1419	2540	691	964	736	929	385	782	1158	252	821	—	—
Molasses, do	—	—	—	333	538	1404	10866	9733	7710	7198	7479	16764	—	—
Pork, hhds	29415	26172	16009	380	679	397	11631	9010	5086	3542	2821	380	788	1657
do tcs	2884	8606	11902	83	84	251	941	1624	6096	1	493	2396	123	832
do bbls	170817	171776	172624	1651	1082	188	5688	5229	4492	1982	2377	7958	4728	8319
do pounds	2960	82300	21500	1380	446	25602	609970	501805	228400	306011	997051	620319	240000	437920
Soap, boxes	4703	5646	7083	1167	1534	5397	4835	3234	3693	316	542	575	347	695
Sugar, hhds	—	—	—	307	347	494	5516	2382	2244	5736	5814	6912	—	—
Whisky, bbls	75985	64258	96712	29905	22214	42528	22129	5661	21945	3185	3074	2731	31739	15624

A Comparative Monthly Statement of steamboat arrivals at this Port for three years, ending September 1, 1850.

ARRIVALS FROM

MONTHS.	New Orleans.			Pittsburgh.			St. Louis.			Other Ports.			Total.		
	'47-8	'48-9	'49-50	'47-8	'48-9	'49-50	'47-8	'48-9	'49-50	'47-8	'48-9	'49-50	'47-8	'48-9	50
September,	5	12	8	79	72	46	25	19	20	220	168	186	329	271	260
October,	9	—	4	86	63	82	33	30	32	239	141	177	367	234	295
November,	30	22	24	65	95	80	27	32	39	238	155	219	362	304	362
December,	34	51	28	41	65	56	21	26	26	175	158	227	271	300	337
January,	40	53	40	42	47	42	8	7	9	213	158	195	303	255	286
February,	42	45	38	75	46	65	13	13	19	208	130	184	348	234	306
March,	43	36	40	93	87	84	20	21	24	246	152	234	406	308	382
April,	32	35	17	93	90	84	36	40	34	118	180	125	279	345	260
May,	28	22	17	79	51	63	36	41	25	200	182	226	343	296	331
June,	13	16	17	75	58	64	26	18	20	210	177	230	327	269	331
July,	31	19	17	76	24	40	27	15	18	205	130	184	339	188	259
August,	12	8	10	76	28	44	18	6	10	226	193	180	333	235	244
Total,	139	319	260	880	726	750	292	278	276	2499	1924	2367	4007	3239	3653

MANUFACTURES IN CINCINNATI.

Rolling Mills in the city and vicinity seven*—capital invested $760,000—annual products $1,580,000—annual consumption of pig iron 15,900—ditto. scrap iron, 1,050 tons—ditto blooms, 5,800. Consumption of coal, 1,100,000 bushels; hands employed 945.

Stove Foundries, 14—capital invested $557,000—products $892,000—pig iron consumed, 9,450 tons—scrap do., 725 tons—coal 102,900 bushels—coke 86,000 bushels—number of hands employed, 880—number of stoves manufactured, annually, about 101,000.

Machine Shops and Foundries, 28—number of hands employed, 1799—capital invested, $1,498,000—products, 2,459,000—pig iron consumed, 14,670 tons—ditto of blooms, 156 tons—ditto of scrap, 505—coal consumed, 545,000 bushels—coke consumed, 95,500 bushels.

LECAPITULATION.

	Capital.	Products.	Consumption of iron.—Tons.	Consumption coal & coke. bushels.
Rolling Mills,	$760,000	$1,580,000	22,750	1,100,000
Stove Foundries,	557,000	892,000	10,175	188,900
Machine shops,	1,498,000	2,459,000	15,271	640,500
Total,	$2,815,000	$4,931,000	48,196	1,929,400

COTTON FACTORIES.

In Cincinnati, Covington and Newport, 5—number of spindles, 19,400; annual produce, 3,186,000 yards brown sheetings, & 1,014,000 lbs cotton yarns; cotton consumed, 4,350 bales; hands employed, 505; value of annual products, about $458,000; capital invested in buildings and machinery, $220,000.

LINSEED AND LARD OIL.

Linseed oil mills, 4; quantity of seed pressed during last year, about 100,000 bushels; ditto oil produced, 200,000 gallons and 2,000 tons of oil cake. These mills are capable of pressing 347,000 bushels of seed annually. Lard oil mills, 40 in all, small and large; annual produce about 33,110 bbls. oil, and 7,000,000 lbs. stearine; aggregate value of products about $1,119,000.

SOAP AND CANDLES.

Number of factories, 8.

WHITE LEAD AND PAINTS.

Number of white lead factories 4; annual products about $250,000; one paint factory; annual business about $25,000.

BOOTS AND SHOES.

Wholesale factories 6; number of hands employed about 700. There are, altogether, 27 wholesale houses in the city, all of whom manufac-

* One of these Rolling Mills have been removed to St. Louis.

ture more or less; and it is estimated that there are in all, 1500 hands employed in this business. Value of work manufactured by wholesale about $200,000.

CARRIAGES.

Number of factories 10; capital invested $132,000; annual products, $345,000, and hands employed 300. In addition to these, there is a large number of omnibus factories.

RECAPITULATION.

	Annual products.		Annual products
Rolling Mills,	$1,580,000	Cotton factories,	458,000
Stoves and hollow ware,	892,000	Linseed oil,	170,000
Machine foundries,	2,459,000	Lard oil,	1,119,000
Furniture,	668,500	Castor oil,	10,000
Building materials,	375,000	White lead & paints,	280,000
Carriages,	445,000	Boots and shoes,	200,000
Total, - -		- -	$8,656,500

COMMERCIAL REGULATIONS.

AN ACT to provide for recording the conveyances of vessels, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That no bill of sale, mortgage, hypothecation or conveyance of any vessel or part of any vessel of the United States, shall be valid against any person other than the grantor or mortgager, his heirs and devisees, and persons having actual notice thereof, unless such bill of sale, mortgage, hypothecation, or conveyance, be recorded in the office of the collector of customs where such vessel is registered or enrolled: *Provided,* That the lien by bottomry on any vessel, created during her voyage, by a loan of money or materials necessary to repair or enable such vessel to prosecute a voyage, shall not lose its priority or be in any way affected by the provisions of this act.

SEC. 2. *And be it further enacted,* That the collectors of the customs shall record all such bills of sale, mortgages, hypothecations, or conveyances, and also all certificates for discharging and cancelling any such conveyances, in a book or books to be kept for that purpose, in the order of their recep-

tion, noting in said book or books, and also on the bill of sale, mortgage, hypothecation, or conveyance, the time when the same was received, and shall certify on the bill of sale, mortgage, hypothecation, or conveyance, or certificate of discharge or cancellation, the number of the book and page where recorded; and shall receive, for so recording such instrument of conveyance or certificate of discharge, fifty cents.

SEC. 3. *And be it further enacted*, That the collectors of the customs shall keep an index of such records, inserting alphabetically the names of the vendor or mortgager, and of the vendee or mortgagee, and shall permit said index and books of records to be inspected, during office hours, under such reasonable regulations as they may establish, and shall, when required, furnish to any person a certificate setting forth the names of the owners of any vessel registered or enrolled, the parts or proportions owned by each, (if inserted in the register or enrollment,) and also, the material facts of any existing bill of sale, mortgage, hypothecation, or other incumbrance upon such vessel, recorded since the issuing of the last register or enrollment, viz: the date, amount of such incumbrance, and from and to whom, or in whose favor made; the collectors shall receive for each such certificate, one dollar.

SEC. 4. *And be it further enacted*, That the collectors of the customs shall furnish certified copies of such records on the receipt of fifty cents for each bill of sale, mortgage, or other conveyance.

SEC. 5. *And be it further enacted*, That the owner, or agent of the owner of any vessel of the United States, applying to a collector of the customs for a register or enrollment of a vessel, shall, in addition to the oath now prescribed by law, set forth in the oath of ownership the part or proportion of such vessel belonging to each owner, and the same shall be inserted in the register or enrollment; and that all bills of sale of vessels registered or enrolled shall set forth the part of the vessel owned by each person selling, and the part conveyed to each person purchasing.

SEC. 6. *And be it further enacted*, That the twelfth clause or section of the act entitled "An act in addition to the several acts regulating the shipment and discharge of seamen and the duties of consuls," approved July twentieth, eighteen hundred and forty, be so amended, as that all complaints in writing, to the consuls or commercial agents as therein provided, that a vessel is unseaworthy, shall be signed by the first, or by the second and third officers, and a majority of the crew, before the consul or commercial agent, shall be authorized to notice such complaint, or proceed to appoint inspectors as therein provided.

SEC. 7. *And be it further enacted*, That any person, not

being an owner, who shall on the high seas wilfully, with intent to burn or destroy, set fire to any ship or other vessel, or otherwise attempt the destruction of such ship, or other vessel, being the property of any citizen or citizens of the United States, or procure the same to be done, with intent aforesaid, and being thereof lawfully convicted, shall suffer imprisonment to hard labor for a term not exceeding ten years nor less than three years, according to the aggravation of the offense.

SEC. 8. *And be it further enacted*, That this act shall be in force from and after the first day of October next ensuing.

Approved, July 29, 1850.

HORTICULTURAL DEPARTMENT.

From the Columbian and Great West.

NATIVE GRAPE.

Messrs. Editors: About a year since, I made, through the medium of your paper, a request to persons in the U. States, having new, hardy grapes in their vicinity, promising to be of fine quality for the table or wine, to send me the cuttings, as I was anxious to test the quality of all such, both as table grapes and for wine. After thirty years' experience, I have not found one foreign grape that would suit our climate. I have tried from the extreme south to the snow-clad mountains of France, where the wine region suddenly terminates.

I obtained last spring twenty-six kinds of grape cuttings, twenty-four of which were new varieties with us. By grafting, I obtained fruit from a portion of them and from the fruit, wood, and leaf, expect four or five of them to be superior table grapes, and may prove valuable for wine. A portion of them from the wood and leaf are clearly the Fox grape. This grape can always be known from the wood and leaf. This wood is covered with a hairy down, and the leaf thick, like leather, and white and rough on the under side. It generally bears but few bunches, and most of them small, and the fruit has so much of the muscadine scent, that you can judge of the proximity, when within one hundred feet of them. The skin is thick, and the pulp hard. It would be rare indeed, if one of this character should be valuable either for the table or for wine. I should know something of this grape, for in my youth I saw none other, except the small winter grape, and then

thought them delicious. The Catawba may be an improved seedling from it, as in all the Catawba seedlings I have seen there is a disposition to go back to the Fox family. Among those sent me were several of this family, and I fear they will prove of no value.

Cuttings must be the wood of last year's growth. Any person having or knowing of new hardy grapes in their vicinity, will do me a favor by sending me cuttings and the origin of the vine, and a description of its fruit and quality; the size of the bunch; and of the berry; and the bearing character of the vine, and the time it ripens the fruit. The favor to me may be of little moment, compared with the benefit they may render the country. Many portions of the United States are destined to rival the best wine countries of Europe, and they may be the means of bringing into notice a native grape that may be worth millions of dollars to the nation. In all cases, I shall request the person sending the grape to name it, if too modest, let me give it his name. Cuttings may be now sent, or any time before the vine begins to grow. I will send samples of the wine to persons sending cuttings, when of good quality.

A grape may not be fine for the table, but the juices may be pleasant when separated from the skin and pulp, and make a good wine. A great change is also wrought in the fermentation. The Hughes' Crab Apple is not eatable, yet it has no equal as a cider fruit. Where there is an express line in the vicinity, they may be sent by it, as the expense will be no object.

Past experience proves that the Ohio river, in our vicinity, and for some distance above, and a long distance below, is as good a location as any in Europe, and will soon rival the best of them. We should plant the seed of our best native grapes, and select the most promising plant, which is easily done from the vigor of the plant and the appearance of the wood and leaf. A cross between different varieties would also be desirable. The Catawba will be worth millions to the nation. Yet a better one may be found in our woods, or raised from the seed.

I shall be under obligations to editors who will notice that part of this letter which requests cuttings of new hardy grapes. Of the quality of all obtained last spring, I can this fall speak with certainty, as I shall not only have sufficient quantity of each to test their quality for the table, but for the wine also.

Cuttings should have some green mops covering their bottom ends, to keep them moist. Cut off an inch above an upper and lower eye, of such cutting.

When no other mode of conveyance offers, a few crafts may

be sent by mail, enclosed in three or four moist newspapers.—Cut them one inch above an eye, and two inches below an eye. Two eyes to each graft will be sufficient. Select small solid wood.

N. LONGWORTH.

GRAPE CULTURE IN IOWA.

We have received a box of Isabella and Catawba grapes, as a present, from our highly esteemed correspondent, Charles Corkery, Esq., of Dubuque, Iowa, for which we beg to return our grateful acknowledgements. In appearance and flavor these grapes compare favorably with any that we have seen in the St. Louis market. The clusters are large and well filled; the berries fair; of equal size, and equally matured—indicating that the conditions of the climate and soil were favorable to the production of the fruit. The following extract from Judge Corkery's letter will give some idea of the extent to which the grape culture has already been carried in Iowa:

"Permit me to present you with a specimen of our Catawba and Isabella grape, raised some fourteen miles north of this city. They grow all through this country very abundantly and luxuriantly, and are brought to market in wagon loads.

These are not the Italian grape, cultivated at Sinsennawa Mound, six miles from this place, to which I alluded on a former occasion. I have not heard from that vineyard recently, but it looked fine when I saw it last fall, and the owner (Rev. S. Mazzuchelli) promised me to write you on his experience and success.

This specimen is sent merely that you may convince your "southern readers" that they cannot excel us *much* in the culture of grapes."

CHAS. CORKERY.

We have heretofore considered the vallies of the Ohio and Missouri rivers as destined to become the wine producing region of the United States, east of the Rio del Norte; but judging from the evidence before us, and from other accounts, we are ready to conclude that in all probability the conditions of climate and soil are more favorable to the production of grapes in Iowa, than in the more southern portions of the Mississippi valley.

PRESERVING FRUIT.

Fruit of almost every description may be preserved simply by packing it in kiln-dried bran. Sand is frequently used for the same purpose; but it is a ponderous article, and on several accounts far less eligible than bran. Dr. Underhill, of the New York Farmers' Club, stated some years since, that a friend of his obtained a quantity of ground cork, in which grapes had been imported. He dried it thoroughly in a kiln, and packed some grapes in it, which kept sound and good till the following July. He also remarked that he had succeeded in preserving grapes in kiln-dried wheat bran; and that, in preserving all fruits, they should be kept as cool as possible, without incurring danger from frost. The temperature, therefore, ought never to be below 32 degrees nor above 35 degrees.

Mr. Hall, at one of the meetings of this "Club," remarked that the Spaniards export more grapes than all the rest of the world, and that they preserve them by packing in kiln-dried oak sawdust, and hermetically sealing the vessels in which they are deposited. Noah Webster, of lexicon and spelling-book memory, was accustomed to preserve his apples in sand. Plaster of Paris is also had recourse to by many for the same purpose, but it is no less objectionable than the latter article, being heavy and difficult to handle. I have known apples and pears preserved in an excellent state till August, in the following manner: as soon as the weather becomes cool, pick the fruit carefully from the boughs by hand, placing them one by one in a basket, to prevent bruising. Spread them for a week or two in a cool place, and then enclose each apple closely in an envelope of paper. Have a clean barrel, well lined with cotton batting or old newspapers, and pack in the enveloped fruit as closely as it can be placed; head the barrel carefully, and set it away in a cool place. In this way, fruit will generally keep sound and good.—*Germantown (Pa.) Telegraph.*

JOURNAL OF INTERNAL IMPROVEMENTS.

HANNIBAL AND ST. JOSEPH RAILROAD.

The friends of this important enterprise held a meeting at Hannibal on the 27th ultimo, and appointed delegates to attend a convention at St. Josephs on the 7th instant. The meeting was addressed by Col. R. F. Richmond and Wm. P. Harrison, Esq., and a series of resolutions were adopted evincing the interest and confidence which is felt in the final consummation of the work.

We are much gratified that the people of north Missouri have become awakened to the subject of internal improvements. The people of no part of the United States have more at stake on the policy of opening easy and cheap communications to market, than those of north Missouri; for it can scarcely be doubted that a railroad from Hannibal to St. Josephs would double the present aggregate value of the real estate, north of the Missouri river.

But it is scarcely to be expected that a district of country purely agricultural, and withal, so thinly inhabited, can furnish the means necessary to accomplish a work of such magnitude without aid from some other quarter. And seeing that the success of the enterprise must depend, in a great degree, upon the aid of the general government, we trust that our citizens of the North will adopt active and efficient measures to bring the subject before Congress at its approaching session; and that nothing calculated to insure the favorable action of that body will be left undone. It is not sufficient that the people meet and adopt resolutions—they should select one or more intelligent and able individuals to attend the next session of Congress at Washington. Not because our members are wanting in devotion to the interests of their State; nor that they are deficient in ability; but, that by reason of the multiplicity of subjects which claim their attention, they may be greatly assisted by one who is charged with no other duty than that of looking after the interest of this great measure.

From the Alton Telegraph and Democratic Review.

ALTON AND SANGAMON RAILROAD.

The following items of interest in relation to this road, are extracted from a circular just issued to the stockholders of the company: "The contractors have commenced the graduation and masonry in the city of Alton, at Brighton, at Coup's Creek, and at Carlinville, and are now employing a force of three hundred and fifty men and sixty horses, which is increasing daily, and which will, before the end of the present month, reach to a constant force of five hundred men, and one hundred horses; besides this, contracts for the cross-ties are in rapid execution, and twenty thousand are expected to be delivered at Alton early in November; and contracts for all the engines, cars, and six thousand tons of iron, and two thousand tons of spikes, necessary for the whole road, have also been entered into." The work in this city is progressing very rapidly.

EUROPEAN AND AMERICAN RAILROAD.

Except the great Pacific railway, there has been no work proposed which, in our opinion, is calculated to produce such important results as that designed to connect our great commercial cities with the eastern coast of Nova Scotia. It is estimated that by this route the transit across the Atlantic will be shortened one-third, and, the time of travel between New York and London will be lessened at least two days. Indeed, it is confidently believed by many well informed individuals that the voyage will be made from Nova Scotia to Galway, on the western coast of Ireland, in five days.

We can scarcely imagine the extent to which the intercourse between the two continents will be enlarged by thus shortening the voyage. As this country increases in population, wealth and national power, it becomes more attractive in the estimation of all classes of Europeans; and were the voyage across the Atlantic reduced to five days, a very large portion of those who travel for pleasure, would come here as a matter of recreation. To the Englishman, a trip to the Mississippi and the Rocky Mountains will be almost as convenient as to the Rhine and the Alps, and, it may be safely predicted that traveling for pleasure will follow in the direction of emigration westward.

A Convention was held at Portland, Me., on the 31st of July, last, for the purpose of adopting measures calculated to carry this great work into effect. This convention was attended by many influential individuals from the British provinces, who evinced a deep interest in the enterprise. We learn that a lively interest is felt in its success in Great Britain, and little doubt is entertained that sufficient capital can be obtained across the water, if necessary, to complete the work.

The Legislature of Maine have incorporated a company to build that part of the line running through that State, and have appropriated $5,000 for a survey of the route. This is a liberal step on the part of Maine; for in a commercial point of view she is not likely to receive as large a share of the benefits accruing from the work as her southern neighbors. Indeed the enterprise is most intimately connected with the social progress of the age, and its accomplishment may be regarded as certain, whether it receives any material aid from the region in which it is located or not.

BUSINESS OF THE OHIO AND BALTIMORE RAILROAD.

The following are memoranda of the business upon the Baltimore and Ohio railroad, for the month of September, 1850.

The transportation eastwardly into the city of Baltimore, of some of the principal staples has been as follows:

Bark	24	tons.	Lime	8	tons.
Coal	13,393	"	Live stock, viz:		
Fire Brick	112	"	7,325 hogs	519	"
Fire-wood	15	"	420 sheep	28	"
Flour	40,155	"	210 horses & mules	92	"
Grain	52	"	43 Horned cattle	18	"
Granite	411	"	Meal and shorts	227	"
Iron	555	"	Pork and bacon,	61	"
Iron ore and manganese	88	"	Tobacco	142	hhds.
			Whisky	408	bbls.
Lard and butter	17	"	Miscellaneous	253	tons.
Leather	94	"			

The revenue for the month has been as follows:

	For Passengers.	For Freight.
Main Stem,	$33,637 35	$94,355 00
Washington branch,	24,300 50	12,921 68
	$57,937 40	$106,276 68

Making an aggregate of $127,792 35 on the main stem, and $36,221 73 on the Washington branch—the total being $164,-214 08.

The above shows an increase over the corresponding month of last year of $16,258 15, being $8,126 92 on the main stem, and $8,131 23 on the Washington branch.—[*Patriot.*

MADISON AND INDIANAPOLIS RAILROAD.

The receipts of this road for the month of September 1850, show an increase of $,6948,69.

Receipts in Sept. 1850,	23,895 08
" in Sept. 1849,	16,946 41
Increase,	6,948 69

[*Railroad Journal.*

INDIANAPOLIS AND BELLEFONTAINE RAILROAD.

The cars passed over this road from Indianapolis to Pendleton, a distance of about 28 miles, on the 15th instant. We learn from the Indiana State Journal that the executive committee embraced the occasion of opening the road to address themselves to the stock-holders. We learn from this address that "the road is built with gravel basis, oak superstructure, and the heavy T rail." That it is "well and permanently located, entirely above the reach of high water, upon low governing grade of 30 feet to the mile—76 out of 83 miles are straight lines. All curves over 5,000 feet radius, permitting the highest rate of speed, passing through a country of unsurpassed fertility, with no other outlet for its productions—connecting with the Ohio line, with the travel and business passing West of some five or six railroads, and of the capitol of the State with the business and travel passing East of as many more, and costing only about $10,000 per mile, ready for the motive power."

From this account we conclude that the Indianapolis and Bellefontaine railroad must become in time, the best dividend daying improvement in the United States. For besides the advantages above enumerated, it is destined to constitute a section of what we esteem the most important of all the routes from the Atlantic to the Mississippi river.

STARCH FROM INDIAN CORN.

Many of our readers are not aware of the extent of this new branch of manufacture, which we hope soon to see take the place of whisky distilleries in the consumption of our great American staple, Indian corn. There is now in operation, at Oswego, New York, a manufactory that consumes 2,000 bushels of corn a week, which makes 40,000 pounds of the whitest and most beautiful starch for all domestic purposes, whether for the laundry or pantry. The building is 130 by 190 feet, five stories high (to which an addition is about being erected,) and contains 200 cisterns for precipitating the starch, eleven furnaces with drying rooms, and employs about 70 men, and manufactures upward of $120,000 worth of starch annually. There are two other similar establishments in the United States, and yet the demand is constantly increasing.

It is found that the kind of starch is superior to any other for culinary purposes, because it is always made from clean, sweet corn, the gluten of which is separated by a peculiar process of grinding and washing, the corn being first steeped in a chemical liquor, then reduced to pulp, sifted, and filtrated, and, passed into huge cisterns, whence it flows through long, narrow troughs, draining off the water through coarse cotton cloths. In twelve hours, the starch becomes like wet

clay capable of being handled and dried, a process that requires much care and a powerful heat. The residue of the corn is used for feeding hogs and other domestic animals.

This is a new use of Indian corn, but one, we hope, that will prove profitable to the manufacturer, and induce a very large consumption of this grain, and thereby increase the practice to the grower. We should like to have some statistics of the other corn starch manufactories in the country for the purpose of noticing them as being intimately connected with the interest of the agricultural community, and the object of our journal.—[*American Agriculturist.*

IMPROVEMENT IN TANNING.

We copy the following from Cist's Advertiser. If the discovery be all that is claimed for it it is destined, we think, to produce a complete revolution in the business of tanning, and also in the leather trade throughout the Commercial World.

"Revolution in Tanning.—Among various remarkable inventions exhibited at the recent Ohio State Agricultural fair in Cincinnati, was a new process of tanning leather which is thus described in the Statesman of the 12th ult:

Mr. Ansel Frost, of Rochester, N. Y., created more sensation on the minds of all true lovers of science and improvements, than any other person on the ground, by exhibiting specimens of tanned leather, in whole sides, and made into boots, shoes, gloves, &c., which were tanned in the almost incredibly short period of ten minutes, by a process discovered by his fellow-townsman, Mr. Harmon Hibbard. By this mode of tanning, a composition is prepared that acts directly and rapidly upon the grease, &c., in the skin, opening its pores, and preparing it at once for the tannin, which being a part of the constituent property of the composition, passes instantly in the skin, and there unites with the gelatine at once, all of which is done as if by magic; making stronger, softer, and more valuable leather than can be produced by the old methods, and at a much less cost. Hides or skins of all kinds, may be tanned with the hair, wool or fur on, with equal facility. Sheep skins, by this process, it is said, will compete successfully with calf skins tanned by the usual method. It certainly does appear from all the evidence furnished, that this new discovery is destined to work an entire revolution in the business of the manufacture of leather. To show the confidence Mr. Frost has in the efficacy of the composition, he places the value of his county rights pretty high in the figures, and when a party represents that he is ready to close a purchase, he very quietly and coolly turns around, with a significant business-like turn of the side face and eye, and declares he will sell no rights to parties unless they first go to Rochester, and examine for themselves the whole process.

[From the Scientific American.]

FOREIGN SCIENTIFIC MEMORANDA.

GOLD AND SILVER GLASS.

A new method of manufacturing ornamental glass has lately been discovered, which presents the brilliant appearance of highly polished gold and silver. This mode of "silvering" glass is a new invention, which is now being carried on by a company in London. The various articles are blown of two different thicknesses of glass throughout, and the silver is deposited upon the two interior surfaces of the double hollow glass vessel. The silver is deposited from a solution of that metal by the reducing agency of saccharine solutions; in short, the process is entirely a chemical one. The double hollow vessels are hermetically sealed, and thus the silver deposit is protected from wear and from atmospheric influences. The brilliant silver deposit being seen through the colored glass, communicates to that substance, in a curiously illusive manner, the appearance of being entirely formed of gold and silver itself. When the glass is cut, the brilliancy of the silver is heightened; and, on the other hand, when the glass is ground the effect of frosted silver is produced. By staining, and the employment of variously-colored glasses, the effect is modified in a variety of ways; thus, with certain yellow glasses, the effect of gold is produced, with deep and ruby glass, colored metalic lustres, equal in the effect to the plumageof birds, are obtained. As every form into which glass can be blown is silvered with facility, the extent to which this beautiful invention can be carried is perfectly unlimited. The new process extends to flower vases, chimney ornaments, and in fact, to every article usually made of glass. For ornaments it presents all the lustrous brilliancy of highly polished gold and silver, at a great reduction of cost, and for imitating jewelry and illuminations it will far surpass anything known. In fact, the invention is at present quite in its infancy, and promises soon to fill the houses of the middle classes, usually destitute of brilliant ornaments, with cheap articles presenting all the striking appearance of costly plate, &c.

DESCRIPTION OF THE BUILDING FOR THE GREAT INDUSTRIAL EXHIBITION OF 1851.

We are indebted to the kindness of a friend for an English paper containing a description and perspective view of the building for the great industrial exhibition of 1851, in London; from which we have taken a few facts for the purpose of affording our readers some idea of the extent of the preparation which is going on for this, perhaps, the greatest exhibition of the works of art that mankind have ever witnessed.

"The building will be 1,848 feet long (why not three feet more, that it might have symbolized in its figure the great year to which the event will give its name?) by 408 feet broad and 66 feet high:—and another of its peculiar features (and a comfort for the alarmists) is, that it can be entirely prepared away from its destined site, and will want merely putting together on the ground. The long line is crossed

ed by a transept 108 feet high, which will inclose a row of elm trees now standing at a point so near the centre as to divide the length into 948 feet on the one side and 900 feet on the other. In addition to the timber for joists, flooring, &c., the glass and supports of iron comprise the entire structure. The columns are similar in form throughout. The same may be said of each of the sash-bars and of each pane of glass. The number of columns, varying in length from 14 feet 6 inches to 20 feet, is 3,230. There are 2,224 cast-iron girders for supporting galleries and roofs, besides 1,128 intermediate bearers or binders, 358 wrought-iron trusses for supporting roof, 34 miles of gutters for carrying water to the columns, 202 miles of sash-bars, and 900,000 superficial feet of glass. The building will stand on about 18 acres of ground—giving, with the galleries, an exhibiting surface of 21 acres; but provision will be made for a large increase of galleries if necessary. The gallery will be 24 feet wide, and will extend nearly a mile. The length of tables or table space for exhibiting will be about 8 miles. An idea may be formed of the unprecedented quantity of materials that will be employed in this edifice from the fact, that the glass alone will weigh upwards of 400 tons.

As already explained, the exhibiting surface will occupy a space of about 21 acres. The total cubic contents of the building will be 33,000,000 feet. The total amount of contract for use, waste, and maintenance is 79,800*l.*,—or very little more than nine-sixteenths of a penny per foot cube. The total value of the building, were it to be permanently retained, would be 150,000*l.*,—or rather less than one penny and one-twelfth of a penny per foot cube.

* * * * * * * * * *

The provision for ventilation is, according to Mr. Paxton, a very peculiar part of his plan. The whole building, he says, will be fitted with louvre, or luffer, boards,---so placed as to admit air but exclude rain. The roof and south side of the building will be covered with canvas,---and in very hot weather it may be watered and the interior kept cool. In the transept alone there will be above 5,000 superficial feet of ventilators provided,---and it will be found that if Mr. Paxton has erred at all in respect of the means of ventilation, there will be too much rather than too little. By covering the south side and roof of the building with canvas, a gentle light will be thrown over the whole of the building,---and the whole of the glass of the northern side of the building will give a direct light to the interior."

This exhibition will constitute a great fact in social history; and will in future be regarded as the era when the useful arts, long degraded, were raised to their true dignity in the estimation of mankind.

THE

WESTERN JOURNAL.

VOL. V. November, 1850. NO. II.

ART. I.—SOUTHERN AND WESTERN COMMERCE.

In an article published in the first volume of the Western Journal, we sketched the outlines of a system of commerce for the Valley of the Mississippi; and, endeavored to show that in obedience to natural laws, this system must in time become independent of the present one, which has its centre on the Atlantic coast, in the eastern States.

When that article was written, nothing had transpired to suggest any important change in the long established course of commerce from east to west. The eastern States were rejoicing in a monopoly of the foreign, southern and western trade; and also, in the rapid growth of their numerous and varied manufactures; while the only thing which the people of the west seemed to consider necessary to ensure their permanent prosperity, was a cheaper and more speedy communication with eastern and foreign markets.

The idea of establishing manufactories in the south and west, was generally regarded as visionary: and indeed many objected to the policy of encouraging this branch of industry, on the grounds that it was calculated to divert labor from agricultural pursuits and demoralize the people. While nearly every one seemed to conclude that it was impossible for manufactures in the south and west to compete successfully with the capital and skill of the east.

Three years have not yet elapsed since our article on "the natural laws of commerce" was written; and within this short period many changes have occurred calculated to awaken the attention of observing individuals, in all parts of the country, to the new aspects presented by the developments continually

going on in every department of industry. Manufactures in the east, which seemed a few years ago to be established on a firm and permanent foundation, are beginning to exhibit signs of decay — this is more especially the case in regard to the manufacture of cotton — for we learn from reliable data* that in the year 1847–8, the eastern factories consumed 456,772 bales of raw cotton, and that in the year 1849, they only consumed 380,269, a decline of 76,269 bales in two years; while the southern and western factories increased from 75,000 to 107,500 bales, being a gain of 32,500 bales in the same period. And still the number of factories are rapidly increasing in the latter regions. Such facts as these are too prominent and imposing to be overlooked or disregarded by intelligent minds, and afford strong evidence that the location of cotton factories in the eastern States, is not in accordance with the natural laws of commerce; and, also, that notwithstanding they may yet increase for a time, still they are destined, ere long, to suffer a decided decline.

The genius of the age is directed to the discovery and development of natural resources; and wheresoever these can be made most available for the production of the necessaries and comforts of human subsistence, thither commerce and capital will resort, and there abide.

But it may be asked where will the south find a market for her fabrics? Let her supply the home demand first, and then look to the mighty west, where the increase of consumption will keep pace with the increase of production until she reaches the extent of her producing capacity. Nor will there be any necessity for sending her products to New York and Boston, for distribution; for she will find merchants to distribute them in her own great cities, or, the producer may ship them direct to the cities of the west, where they will be in the midst of the consumers.

But the production of cotton fabrics in the south, need not be limited by the home and western demand. Charleston, Mobile and New Orleans, are as near to South America and China, as are New York and Boston; and, being nearer to the trade of the west, will be in a condition to export their surplus manufactures on as good terms as their northern competitors.

The railroads of the south constitute another capital feature in connection with this subject. Though commenced, perhaps, without reference to the great results which are likely to flow from it, the construction of the Charleston and Hamburg railroad, may be regarded as the first practical movement towards the establishment of a distinct system of commerce, west of

* DeBow's Review, Vol. 9, page 475.

the Allegheny mountains. When this work reaches the Ohio river, as it certainly will in a few years more, the cities of Charleston and Savannah will be in complete connection with the Mississippi Valley; and we cannot suppose their citizens to be so stupid and wanting in enterprise, as to fail in establishing lines of steamers to the principal mercantile ports of Europe.

Again, the recent act of Congress granting land in aid of the railway from Mobile to Chicago and Galena, places the construction of this work beyond a reasonable doubt, laying the foundation of a system of railroads east of the Mississippi river, which would be sufficient of itself, in time, to revolutionize the commerce of the west.

The next great project connected with western commerce is that of opening a commercial thoroughfare across the Isthmus of Tehuantepec. This will make New Orleans the great entrepot of the Pacific trade, destined for the Valley of the Mississippi, and bring it to St. Louis in about the same time, and at little more cost than it can be carried to New York.—The citizens of New Orleans have been canvassing this project for some time, and we trust that sufficient enterprise will be found among them to carry it forward. But this is a work the burthen of which should not be left to rest on the people of New Orleans alone: the entire Valley of the Mississippi is deeply interested in its success, and, if necessary, every State in the west and south should aid in its construction.

Hitherto, the eastern States have monopolized the profits of southern and western labor: and well are they entitled to enjoy the rewards of their industry and enterprise. It has been in the power of the south, all the while, to change her condition, and therefore, should not blame the east for her own supineness and want of foresight. She has opposed the strength of human muscles against iron, steam, and the combinations of machinery, until she is convinced that the contest is hopeless. And now, awakened to a sense of the disadvantages under which she has labored, and stimulated by what she deems an unwarrantable interference with her institutions on the part of the north, she has resolved to develop her own great resources, by bringing the power of steam and machinery to aid her operatives. Actuated by such motives, and assisted by such powerful coadjutors, she may look with confidence to a most brilliant future, defying the competition of the world in the manufacture of her own great staple.

Every part of the Valley of the Mississippi, and more especially that west of the river, is deeply interested in the changes now going on, and the improvements being made in the southern States; for in that direction they must look, not only for cotton in all its varied forms, but for sugar, molasses, cof-

fee, and other tropical productions: also, for tea and other products of China and all countries bordering on the Pacific ocean; for through the south these must enter the west, until a railroad shall have been constructed across the Rocky Mountains. And in this direction, also, must they look for consumers of their surplus products, whether of agriculture, mines, or manufactures. The south is the natural market for wheat, the great staple of the north, and from this time forward the producers of this commodity, even on the shores of Lake Michigan, will find it to be their interest to look south rather than to the east for consumers. Seasons of scarcity in the east, or, favorable crops in the south may, and doubtless will, occasionally make the east the better market—but the southern demand is destined to increase until it shall become the leading market for this and other northern products.

It is not to be inferred from what we have said of the south, that our connections with the east are to cease entirely—far otherwise; nor is such an event to be desired. The east is a region of great resources, and it is to our interest that it should maintain, if not its present relative importance in a commercial point of view, yet, a state of prosperity that will make it a respectable rival of the south.

The people of the east are beginning to comprehend and appreciate the changes that are occurring in the south and west; and it is unreasonable to suppose that they should desire to accelerate them; and hence it is to be expected that in the national councils they will endeavor to maintain their present advantages and relative importance, by withholding their assent to measures calculated to promote an interest adverse to their own. We have endeavored to show that the interests of the south and west are one and inseparable, and claim the united wisdom and action of the people of both regions in their behalf. It is our duty, therefore, to interchange views and opinions, and act in concert on all subjects relating to our common welfare. In times past, the south and west have not acted in unison on subjects alike interesting to both; but we trust that in future, a better understanding will exist between them.

Among the great subjects of national legislation which are likely to claim the attention of Congress at an early day, the most important, in our estimation, is that relating to the disposition of the public domain: on this subject the interest of the entire region from the great lakes to the Gulf of Mexico is evidently the same. This is a measure about which a variety of opinions will naturally prevail, even in the same district of country, and hence the importance of discussing it throughout the Union. If the people of the south are wise, in respect to their own interest, they will unite with the west on some plan calculated not only to extinguish the title of the general gov-

ernment within a limited period, but to promote the improvement of the country also.

Before dismissing this subject, we feel constrained to make a few remarks relating to the indifference and supineness evinced by the conductors of the public press throughout the west, in respect to measures involving the interest and prosperity of the country. It is in their power, and we hold it to be their duty, to bring the public mind to bear upon all subjects relating to the general welfare of the community, and give vitality and action to public sentiment, by furnishing their readers with well authenticated facts and sound arguments. But, unfortunately, much the larger part of the editorial corps of this country are bound by party obligations; and having no authority to lead, or to promulgate their own individual opinions, they dare not transgress their party limits. It is not their province to discuss a new measure, no matter how important to the country, until it shall have been adopted by one or the other of the leading parties. And hence, when a measure is suggested by one not recognized as a political leader, it receives but little attention from any quarter. The rank and file of the corps dare not approve nor condemn until it has been adopted as a party measure, lest they should be found on the wrong side of the question. It is owing to this cause, chiefly, that one who labors for the advancement of any great measure, not yet recognized and adopted by a party, receives so little encouragement from the public press.

We admit that political parties must exist in all free governments, and that the principles and policy of each should be represented by their respective journals. This is a principle in social economy which challenges our admiration; for it was evidently designed to stimulate man to investigate the great principles involved in human governments, and apply them to the practical advancement of civilization. So long as this lofty object is kept in view, the partizan should be regarded as a patriot and philanthropist, but, when he searches for such facts only as are calculated to sustain his party, and labors to invalidate those which operate against it, or shrinks from a fair investigation of facts and principles, lest the conclusions should be against him, he fails in the performance of his social duties, and brings reproach on the party to which he belongs.

We deem it necessary that the press should devote much of its labors to practical subjects; and the ground of our objection is, that questions of State policy are too much neglected. In our own State there are many subjects of unusual interest that claim the action of the legislature which is about to assemble. Among these may be enumerated a system of common schools; internal improvements; a geological survey; draining the swamp lands; the license laws, and laws regula-

ting interest. These are all measures intimately connected with the prosperity of the State, and yet, with a few exceptions, they have scarcely received a passing notice from any quarter.

We cannot suppose that the conductors of the press in Missouri are totally indifferent in regard to all these measures, and, unless they have been restrained by modesty, we are unable to account for their silence. And, that they have not been prompted by a laudable ambition to connect their names with some of these measures, is proof that they possess no ordinary powers of self-control.

From the Merchant's magazine.

ART. II—THE PRECIOUS METALS, COINS, AND BANK NOTES.

PART II.

On the origin and progress of Banking, and the estimated amount of paper money in circulation in the different countries in Europe, and in America in 1810 and 1830—on the amount of banking capital, coin in the banks, circulation of bank notes and coin in the United States at different periods, from 1810 to k849—also the exports and imports of coin, and the influence of foreign commerce on banking as well as on the specie in the country—on the depreciation of paper money—the losses of the people—evils resulting from it, and remedies suggested.

The first issue of paper money in Russia consisted of 40,000,000 roubles of assignats in 1759; the second consisted of 90,000,000 roubles in 1787. The silver rouble is equal to about seventy-five cents.

NO. I.

The amount of assignats in circulation in Russia, and the per cent. of depreciation at different periods, is stated by Storch as follows:—

Years.	Circulation.	per cent. discount.	Years.	Circulation.	per cent. discount
1790	111 millions roubles.	13	1805	292 millions roubles.	23
1795	150 "	31 1-2	1810	577 "	66 2-3
1800	212 "	35	1814	577 "	75

Mr. Jacob states that the paper money of Austria had increased prior to 1810, to 1,060,000,000 of florins, and had at one time so depreciated, that a silver florin would purchase ten or twelve paper florins, and that they were worth in 1810 only about one-fifth part of their nominal value. Calling their nominal value about two shillings sterling, and their real exchangeable value in 1810 one-fifth part as much, he estimated their total exchangeable value in 1810 at 21,000,000 pounds sterling.

About the year 1825 they were redeemed at two-fifths their nominal value, and specie payments resumed, and he estimated the amount of paper in circulation in 1830 at 100,000,000 florins, equal to £10,000,000 sterling.

He says the notes of the Bank of England in circulation in 1810 amounted to about £24,000,000 sterling, and estimated the notes of the private and joint stock banks, and the other banks of Great Britain and Ireland at the same amount—that is, at £48,000,000 in all. The tables in Brande's Encyclopædia of Science and Art, title bank, show that the circulating notes of the Bank of England in 1810 amounted to £21,019,-600, and the coin and bullion in the bank £3,501,410; excess of circulation over coin and bullion, £17,518,190 and that in 1830 the circulation was £20,050,730, the coin and bullion £9,-171,000, and the excess of notes in circulation but £11,556,-730.

The country bank notes of England and Wales in circulation in 1810 are estimated in the Commercial Dictionary at £23,893,868; in 1833 they were reduced to £10,152,104. The notes of the Bank of Ireland in circulation in 1810 are stated at $3,170,064, and in 1832 at £3,975,322.

After the suspension of specie payments by the Bank of England in 1797, the excessive issue of bank notes occasioned their decline in value, and their depreciation in 1810 was nearly 13 per cent., and in 1814 over 25 per cent. The basis of the private and joint stock banks relied upon to redeem their notes was not specie nor bullion, but notes of the Bank of England; so that nearly the whole amount of their circulation was an addition of so much to the money or circulating medium of the country.

As the Bank of Russia, and also that of Austria, were both in a state of suspension in 1810, and the former also in 1830, they probably had very little specie or bullion to redeem with, and I shall estimate the same at but 10 per cent. Mr. Jacob remarks that in the smaller States of Germany, in Italy, except that part of it which is under the dominion of Austria, and in Spain and Switzerland, the currency has been invariably metallic; and in Denmark, Norway, and Sweden, a paper currency existed in 1810, and still circulated; but the whole amount, as well as the variations in those countries, has been so small that they affect, in a very trifling degree, the view here taken.

There was no bank in the United States until the Bank of North America was established in Philadelphia in 1770. The first banking association formed in the State of New York was a joint stock company organized in the year 1714, under the articles of association, under which it did business as a bank

nearly seven years, when it was incorporated in March, 1791, by the name of the Bank of New York. In 1792 the Bank of Albany was chartered, and in 1793 the Bank of Columbia. No other banks were chartered by the State of New York until the year 1800, when the Manhattan Company was incorporated. The first United States Bank was established in 1791; after the year 1800 banks began to increase in all parts of the U. States; and we have pretty accurate information of the amount of banking capital and of bank notes in circulation at different periods, from December, 1810, to the present time.

There is much less positive evidence of the amount of paper money in circulation in Europe and America in the year 1800, than in the year 1810, and since that time. The circulation of the Bank of England in August, 1800, was less than £15,000,000 sterling, but was nearly £24,500,000 in August, 1810. Though the United States was flooded with what was called continental money during our revolutionary war, and some of the New England colonies issued great quantities of paper money before the war, yet from the close of the war until after the year 1800, we had comparatively little paper money in our country. Paper money was increased immensely in many countries of Europe between the years 1800 and 1810, and there was probably nearly twice as much in circulation at the latter, as at the former period.

NO. II.

Estimates in millions of pounds sterling, taken mostly from Jacob's inquiry of the exchangeable value of the paper circulation of Europe and America in 1810 and 1830, the depreciation from which the nominal amount may be calculated, the amount of specie and bullion in the vaults of the banks, and the increase of the circulating medium by means of bank notes:—

		Depreciation, per cent.	Exchangeable value of bank notes in circulation.	Bullion and specie in the banks.	Excess of bank notes overspecie and bullion.
Bank of England	1810	14	18	3.5	14.4
"	1830	par	20	9 17	10.9
Private and j'int st'ck banks in	1810	14	20	1.5	18.5
do.	1833	par	10	2 15	8
Banks of Ireland	1810	14	2.7	.5	2.2
"	1830	par	5	2	3
Banks of Scotland	1810	14	3	6	2.4
"	1830	par	3.5	1.4	2.1
Bank of France	1810	par	2	.8	1.2
"	1830	par	9	3.5	5.5
Bank of Russia	1810	72	23	2 3	20.7
"	1830	75	25.2	2.5	22 6
Bank of Austria	1810	80	21	2	19
"	1830	par	10	3.5	6 5
Holland in	1810	....	..	....	....
"	1830	par	1	.4	.5
Portugal	1810	30	1 4	.2	1 2
"	1830	....	2	.5	1.5
Prussia	1810	....	..	....	....
"	1830	par	2	7	1.3
United States	1810	par	5.8	3.2	2.6
"	1829	par	12 8	4.6	8.2
Total,	1810		£97	£14.6	£82.4
"	1830		100.5	30.3	70.2
"	1800			estimated at £46	

NO. III.

STATEMENT OF THE CIRCULATION OF BANK NOTES IN THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND AT DIFFERENT PERIODS, STATED IN MILLIONS OF POUNDS STERLING.

	December, 1842.	December, 1845.	December, 1848.	December, 1849.
Bank of England	£19 5 millions.	£20.2 millions.	£16.9 millions.	£17.9 mill's
Private banks, Eng.	5.0 "	4.5 "	3.5 "	3.5 "
Joint-stock banks	3.0 "	3.1 "	2.5 "	2.6 "
Banks in Scotland	3.0 "	3.3 "	3.3 "	3.2 "
Banks in Ireland	5.2 "	7.4 "	4.8 "	4.7 "
Tot. United Kingdom	£35.7	£38.5	£31.0	£31.9

Mr. McCullock estimates the amount of coin in circulation in the United Kingdom of Great Britain and Ireland in 1833 at £30,000,000 sterling; but when we reflect that they have a large bank note circulation, and that nearly all the merchants keep their deposits in, and do their business through banks, I doubt if the average circulation of coin during the last twenty years has exceeded £20,000,000, and have estimated it at that sum. The notes of the Bank of England constitute the principal means of all the other banks and bankers of the kingdom, with which to redeem their notes; and hence they are used as a substitute for coin to the amount of perhaps £6,000,000, which should not be treated as any portion of the circulation

of the country. This amount should therefore be deducted from the gross circulation of England, and the deduction is made in the following table. The average circulation of bank notes in the United Kingdom from 1833 to 1840, was about the same as from 1841 to 1849 :—

NO IV.

STATEMENT OF THE AVERAGE CIRCULATION OF COIN AND BANK NOTES AMONG THE PEOPLE, FROM 1841 TO 1849, AND THE AMOUNT TO EACH PERSON, AFTER DEDUCTING £6,000,000 STERLING, BANK OF ENGLAND NOTES, SUPPOSED TO BE HELD BY OTHER BANKS.

	Bank notes.	Coin.	Total.	Each person.
England and Wales	£21 millions.	£14 millions.	£35 millions.	£10 1-4
Scotland	3 1-8 "	2 1-4 "	5 3-8 "	9 1-2
Ireland	5 1-2 "	3 3-4 "	9 1-4 "	5

The circulation of the Bank of France ordinarily fluctuates from 210 to £240,000,000 francs :—

Its circulation in July, 1830, was about	$43,200,000
In October, 1839, it was	39 937,000
" 1845, it was	48,589,000

It is most probable that the amount of paper money in Europe and America was very nearly the same in 1840, and but little more in 1845 than it was in 1830.

NO. I.

ESTIMATE OF MR. GALLATIN OF THE CAPITAL, NOTES IN CIRCULATION, AND SPECIE IN THE BANKS OF THE U. STATES AT THE END OF THE YEAR 1829 —

	Capital.	Notes.	Specie.
281 banks, ascertained	$95 millions.	$39.2 millions.	$12 millions.
48 banks, estimated	15.2 "	9.1 "	2.9 "
United States Bank	34 "	13.0 "	7.2 "
Total	$145.2	$61.4	$22.1

It is obvious that if the capital of the forty-eight banks is aroperly estimated, the notes in circulation are estimated too high, by more than $2,000,000, and the specie in them too high by about $1,000,000, to correspond with the 281 banks, whose condition was ascertained. I shall, therefore, reduce the estimate, to make all the parts correspond, and shall call the circulation but $59,000,000, and the specie 21,000,000.

Mr. Gallatin estimated the amount of specie in the banks of the United States at the end of each year as follows :—1810 at $15,400,000; of 1814 at $17,000,000; of 1815 at $19,000,000; and of 1819 at $19,800,000.

The commercial records of the exports and imports of the precious metals, show that the amount in the country, from 1824

to 1828, must have been about $9,000,000 less than it was in 1820: and about $5,000,000 less in January, 1830, than it was in 1820. We cannot reasonably assume that the amount of coin in circulation in January, 1830, was less than $4,000,000, which, taking the exports and imports of specie into consideration, and Mr. Gallatin's estimate of the amount in the banks, would make the amount in circulation in 1820 over $10,000,000 and may be illustrated as follows, (the amount brought in by immigrants, not entered at the custom house, being estimated at from $10,000,000 to $20,000,000 each, on an average:—)

Estimated amount of coin and bullion in the United States, October 1, 1820,		$30	millions.
Imported in four years to September 30, 1825		24.9	"
Estimated amount brought in by immigrants		2	"
Total of imports and supply		$56.9	"
Exported during the same four years	$34.67 millions.		
Estimated amount used in the arts and made into plate, utensils, jewelry, and other ornaments, over and above old metal used and the produce of our own mines	1.22 "		
Total export and consumption		35.9	"
Leaving in the United States but		$21	"
October 1st, 1824, when the tariff of 1824 took effect:—			
Imported in four years, to September 30th, 1828		$28.67	"
Estimated amount brought in by immigrants		2	"
Total import and supply		$51.67	"
Exported during the same four years	$29 4 millions.		
Estimated amount used in the arts	1.27 "		
Total expors and consumption		30 67	"
Leaving in the United States only		$21	"
October 1st, 1828, when the tariff of 1828 went into operation:—			
Imported in six years, to September 30th, 1834		$53.75	"
Amount brought in by immigrants, estimated at		4	"
Total imports and supply		$78.75	"
Exported during the same six years	$26 46 millions.		
Used in the arts	2 29 "		
		28 75	"
Leaving in the United States		$50	"
October 1st, 1834, soon after the free trade compromise.			
Act of March, 1833, made the first reduction of duties on foreign manufactures:			
Imported in thrae years, to September 30th, 837		$37	"
Estimated amount brought in by immigrants		2	"
Total imports and supply		$89	"
Exported during the same three years	$16.78 millions.		
Amount used in the arts, over and above product of our mines during this extravagant period of speculation	9.22 "		
		26	"
Leaving in the United States		$63	"
October 1st; 1837, when nearly all the banks in the nation were in a state of suspicion.			

As the imaginary wealth of the people of the United States was greatly increased during the speculative period from 1834 to 1837, by the multiplication and expansion of the banks, the increase of paper money, and the increase of prices, which was the necessary consequence; the extravagance of the people, and the increase of gold and silver made into plate, watches, chains, and other ornaments and utensils, was also immensely increased.

The value of the products of the precious metals manufactured in the United States in 1839, according to the returns of the census, amounted to $4,734,960, which must have consumed an amount of gold and silver exceeding $3,000,000.

The products of our gold mines in 1839 amounted to only $529,605; and the amount of silver was so small that it was not returned separately from other metals. The amount used in the arts for ten years, from 1837 to 1847, over and above the products of our mines, and the old gold and silver worked over, has probably amounted to over $2,000,000 per annum.

Estimated amount of specie and bullion in the United States, October 1, 1837, brought forward		$63	millions.
Imported in one year, to September 30, 1838		17 75	"
Amount brought in by immigrants, estimated at		.50	"
		$81.25	"
Exported during the year	$3.5 millions.		
Used in the arts	1.75 "		
		5 25	"
Leaving in the United States, October 1, 1838		$76	"
Imported in four years, to September 30, 1842		23.55	"
Amount brought in by immigrants, estimated at		2.45	"
		$102	"
Exported during the same four years	$32.3 millions.		
Used in the arts, estimated at	7.7 "		
		40	"
Leaving in the United States		$62	"
Coin and bullion, October 1, 1838, when the tariff of 1842 went into operation.			
Specie imported in three and three-quarters years to June 30, 1846, under the tariff of 1842		$36	"
Estimated amount brought in by immigrants		5	"
		$103	"
Specie exported during the same period	$19.5 millions.		
Used in the arts and loss by friction, &c., estimated at	8.5 "		
		28	"
Leaving in the United States		75	"
Specie imported during the year ending June 30, 1847, in consequence of the short crops in Europe and the great demand for our flour and grain		$24.1	"
Amount brought in by immigrants, estimated at		1.4	"
		$100.5	"
Specie exported during the same year	$2.5 millions.		
Specie expended abroad by the navy, and by the army in Mexico, estimated at	4 "		
Used in the arts and lost by friction, &c.	3 "		
		9.5	"
Leaving in the United States, June 30, 1847		$91	"
Of coin and bullion of over $30,000,000 on the 1st of December, 1846, when the free-trade tariff of 1846, took effect.			
Specie imported in two years, to June 30, 1849		$13	millions.
Amount brought from California, about		2	"
Estimated amount brought in by immigrants		4	"
		$110	"
Specie exported during the same period	$21.25 millions.		
Used in the arts and loss by friction	5 75 "		
Expended abroad by the army and navy	3.00 "		
		30	"
Leaving in the United States, June 30, 1849		$80	"
Of coin and bullion, of which over $45,000,000 was in the banks, and the balance hoarded and in circulation.			

There is much reason to believe that there never was more specie in the United States, in proportion to their population,

than there was during the general suspension of specie payments by the banks, from May 1837, to May, 1838; and consequently, the suspension could not have been caused by the small amount of specie, but by the excessive amount of paper money, the wild and extravagant spirit of speculation, the excessive imports of foreign goods, which served to paralize the industry of the country, and the rapid accumulation of a foreign debt; all of which causes contributed to alarm capitalists, bankers, and business men; to destroy confidence and credit; to depress property, and to derange business.

While the several States were making loans, and selling their bonds in Europe, and to the agents of European capitalists in America, from 1833 to 1838, in order to establish banks, make canals, railroads, and other improvements, and were increasing their debts in Europe about $100,000,000, the specie of the United States was increased, by means of importations, about $10,000,000, and the balance of the loans was imported in the shape of European manufactures. After our debts became so large that European capitalists became alarmed, and would not loan us any more money, nor buy our State stocks and bonds at scarcely any price less than a discount of from 20 to 80 per cent., the merchants and manufacturers still continued to glut our markets with foreign goods; and during four years, under the operation of the free trade compromise act of 1833, they drained the United States of specie, and reduced the quantity in the country from $76,000,000, October 1st, 1838, to 62,000,000, October 1st, 1842. From October 9th, 1839, when the most of our banks suspended specie payments the second time, to the passage of the tariff act in August, 1842, was one of the most gloomy periods in the history of our country; about as gloomy as the six years next prior to the passage of the tariff act of 1824, immediately after the heavy importations of 1815, 1816, and 1817; and exceeded only by the general embarrassment, depression, prostration, and suffering of the country during the period from 1784 to 1789, after the heavy importations of foreign goods at the close of our revolutionary war, when the country enjoyed, to the fullest extent, that glorious system of free-trade which the nullifiers have long been sighing after.

While the tariff act of 1842 was in operation, (from October 1st, 1842, to November 30th, 1846,) it operated to check and lessen the importation of foreign goods, to secure the home market, to a considerable degree, to the laborers and producers of our own country, and to increase the industry of the nation. The balance of trade was in our favor, a part of which was applied to the payment of the interest and principal of our large foreign debt, and a part paid to us in specie; the specie of the country increased about $18,000,000; and, at the end

of that period, our commerce, finances, banks, mining, manufacturing, and agricultural industry, were in a very flourishing condition.

NO. II.

Statement, in millions of dollars, of the capital and gross circulation of the Banks of the United States, and the specie in them, at the time of their reports, the nearest to the 31st of December, of each of the undermentioned years; also, estimates, in accordance with the bank reports and the foregoing calculation of the coin in circulation, and the whole circulation of coins and bank notes, the population, and the average circulation to each person at each period.*

	1810.	1814.	1815.	1819.	1824.	1829.
Capital	$52.6	$82.5	$89.8	$137	..	$145.2
Bank notes issued	28.1	45.5	68	44.8	..	59
Specie in banks	15.4	17	19	19.8	$18	21
" circulation	15	11	8	10.2	3	4
Total circulation	43.1	56.5	76	55	50	63
Population, (millions)	7.3	8.3	8.4	9.6	11	12.6
Dollars to each person	$6	$6 3-4	$9	$5 3-4	$4½	$5

	1833.	1836.	1842.	1845.	1846.	1849.
Capital	$200	$290 3-4	$234	$202	$209	$218
Bank notes issued	94.8	149.1	66	108 1-2	112	132
Specie in bank	....	37.9	35-4	43	38	45.4
" circulation	15	22	26.6	32	42	34
Total circulation	110	171	92.6	142 1-2	154	166
Population, (millions)	14	15 1-4	18.3	20	20 3-4	22 1-2
Dollars to each person	$7 3-4	$11	$5	7 1-8	$7 2-5	$7 3-5

Our foreign commerce has not only affected the specie in our country, but it has had a general influence also upon the circulation of our banks. Prior to the acquisition of California in 1848, the production of gold and silver annually by our mines, was but little over half a million of dollars, About $2,000,000 more than the products of our mines were needed annually to satisfy the pride of the people, and supply them with utensils and ornaments; and to keep pace with the increase of our population, requires an increase of coin of $2,500,000 annually; so that we needed about $5,000,000 annually to supply the wants of the country, and have a sufficient specie basis to sustain our banks, and maintain the credit of our paper currency. The amount of specie in the United States is so exceedingly small, in proportion to the population and commercial wants of the country, that large importations of foreign goods, and an exportation of specie to the amount of $4,000,000 or $5,000,000 a year, for two or three years in succession, will inevitably weaken the banks very much, produce a panic, and run upon many of them, and cause many failures, if not a general suspension of specie payments. This is verified by the commercial revulsion from 1837 to 1842. In May, 1837, nearly all the banks in the United States suspended specie payments;

* A portion of the amount of bank notes in circulation, and specie in the banks at the end of the years 1810, 1814, 1815, and 1829, are estimates of Mr Gallatin, which have been generally adopted and contained in our official reports since 1834, The whole column for 1824, are estimates of mine.

during the year ending September 30th, 1838, our imports amounted to but $108,486,616, including $17,747,116 specie, and but little over $90,000,000 in merchandise and foreign products; our exports the same year amounted to $113,717,404, including but $3,508,046 in specie—that is, we exported, exclusive of specie, over $110,000,000 in amount, and imported but little over $90,000,000; paid off several millions of debts, and got a balance of over $14,000,000 specie to sustain our banks. This enabled nearly all the banks in the old States, and many in the new ones, to resume specie payments during the spring and summer of the year 1838, and to go on for some time prosperously; but the free-trade compromise act again invited large importations of foreign goods, amounting during the year ending September 30th, 1839, to $162,092,132, including only $5,595,176 in specie; while our exports were but $112,251,673, exclusive of specie to the amount of $8,776,743 —showing a nominal balance of trade against us that year of about $44,000,000; a drain of over $3,000,000 of specie from the country, and a large increase of our foreign debt.

This large balance of trade against us and drain of specie, occasioned a second suspension of specie payments on the 9th of October, 1839, by Mr. Biddle's United States Bank of Pennsylvania, which was soon after followed by nearly all the banks south and west of the State of New York. No other country ever felt so quickly and sensibly, and suffered so severely, the disastrous effects of excessive importations of foreign goods, and an unfavorable balance of trade; for no other country ever had so small an amount of specie in proportion to the extent of their commerce; and in no other country was the credit system ever carried to so great an extent, upon a foundation so slight and frail.

The amount of specie in the United States, October 1st, 1839, being about $73,000,000, and October 1st, 1842, but $62,000,000, in round numbers; the quantity in the banks $45,000,000, in 1839, and but $33,545,000, December, 1842, averaging about $39,000,000 left in circulation, including what was hoarded up and withdrawn from use, from 28,000,000 to $29,000,000.

When specie is exported, it is withdrawn entirely from the vaults of the banks in the commercial cities, and they draw the specie from the banks of the country and the interior cities, and the amount in circulation is scarcely affected at all. Export two years in succession to pay for foreign goods, $5,000,000 each year more specie than is imported, accompanied by a great increase of debt by means of heavy importations, these $10,000,000 being withdrawn from the banks, reduces their sdecie to about $30,000,000, and this, of itself, will often propuce a panic and a run upon the banks, and cause a draw upon

them of $5,000,000 or $10,000,000 more, and thereby occasion a failure of many of them, and perhaps a general suspension of specie payments. The suspension of October, 1839, was occasioned by the exportation of specie, and the heavy importations of goods the previous year, though the balance of specie exported was but little over $3,000,000; and the suspension of May, 1837, was in consequence of the immense importation of foreign goods; the rapid accumulation of a heavy foreign debt, and the anticipation of large exportations of specie to pay it; the great expansion of the banks, and their heavy loans to speculators who could not pay. All these things contributed to create a panic, and induce a withdrawal of deposits, and a run upon the banks, and soon led to a general suspension of specie payment in self-defence, and before the anticipated exportation of specie to pay our foreign debt had commenced.

Statement of the amount of bank notes issued to each inhabitant, and the estimated amount of coin and bank notes in circulation, in each of the following divisions of the United States, at the date of their reports nearest to the last day of December, of each of the undermentioned years.

	1836.	1842.	1842.	1845.	1845.	1849
	Bank notes.	Bank notes.	Coin and Bank notes.	Bank notes.	Coin and Bank notes.	Bank notes.
Maine, New Hampshire, and Vermont	$5 1-2	$2 2-3	$4	$4	$5 1-2	$5
Massachusetts, Rhode Island, and Connecticut	15 2-3	9 5-8	11	18	19 1-2	16
New York, New Jersey, and Pennsylvania	12	4 1-8	5 5-8	6 3-4	9 1-2	7
Ohio, and other North-western States, including Iowa	5 3-8	1 7-8	3 1-4	2	3 1-2	2 7-8
Delaware, Maryland, Dis. of Columbia, Virginia, and North Carolina	6 7-8	3 3-8	4 7-8	4 3-8	7	6
Kentucky, Tennessee, and Missouri	4 5-8	2 1-3	4	5	6 3-4	5
Slave States south of 35° of latitude	14 3-4	4 1-8	5 1-2	4	6 1-4	5 1-2
United States	9 1-2	3 5-8	5	5 3-8	7 1-8	5 7-8

For some months, annually, after harvest, including the fall and forepart of the winter, the bank notes of the commercial and manufacturing States are sent into the agricultural States to pay for agricultural products; and during that portion of the year, the circulating money of the agricultural States is greater than is indicated in the above table; but the merchants soon collect the greater portion of it and send it to the commercial cities to pay for goods; so that during half or more of the year, it is much less, and perhaps does not average more than above stated during the years referred to.

Bank paper being a cheaper currency than coin, its natural tendency is to displace coin, and induce its exportation and consumption in the arts. The balance of trade being generally in favor of manufacturing and commercial and against agricultural States, the tendencies of trade are to drain the latter of their coin, and to transfer it to the former. The products of manufacturing labor, when sold in the markets of the commercial world, amount to about twice as much as those of ag-

ricultural labor employed in either cold or temperate climates; but not so when the latter is employed in the culture of cotton, sugar, coffee, and other tropical products, in a soil and climate adapted to them. Labor employed in mining and manufacturing in Great Britain, or in the United States, is more than twice as productive as agricultural labor can be made in Ohio and the North-western States. In fact, the average income of the people of the manufacturing States of Massachusetts and Rhode Island, and of Great Britain, is more than twice as great as that of the agricultural State of Ohio, and nearly twice as great as that of the agricultural State of Vermont.

A majority of mankind are inclined to spend all they can earn, and all they can get credit for, and as the wants of agricultural communities are generally greater than their incomes, they often buy more than they can pay for with their crops within the year; and hence agricultural countries are usually involved in debt; the balance of trade is almost universally against them; and this drains them of their precious metals, and tends to depress their industry and the price of their products still more. Poverty, and nothing but poverty, a want of ability to pay promptly, and a loss or diminution of credit, tends to check importations, and to restore the balance of trade, by lessening the demand for, and the price of goods, and the inducement to import them.

As long as the balance of trade is against a country, it must either export its specie to pay such balance, or buy on credit, accumulate a debt, and eventually be drained of its specie to pay interest, as well as the principal of the debt. Bank notes may, for a time, supply the place of coin, and thus afford a temporary remedy; but in the end, they aggravate the evil.—By inflating the currency in some instances, and in others keeping it full, they keep up, and often raise the price of both domestic and foreign products, and thereby tend to prevent the exportation of domestic products; to encourage importations; to increase both the quantity and value of goods imported, and exports of specie to pay for them; and to diminish the industry of the country by depriving its own citizens of the benefit of its markets for their products. The necessary consequence is, a run upon the banks for coin, a great diminution in their circulation, many failures of banks, and numerous bankruptcies among the people, attended with a depression of property and industry, and wide-spread embarrassment throughout the country. Such a revulsion necessarily checks importations for a time, and as exportation goes on as usual, the balance of trade is eventually turned in its favor; specie again flows in, and the country partially recovers from its embarrassments.

Any measures which tend to increase the productive industry of a country, by securing its markets to its own laborers,

and producers, tends also to increase its wealth and domestic commerce; to lessen its imports of such articles as are, or may be produced at home; to turn the balance of trade in its favor; and to attract to it, and retain, a large amount of the precious metals as a necessary means of carrying on its domestic commerce. Hence every country, taking a long series of years together, attracts and retains an amount of the precious metals, and maintains an amount of money in circulation, just in proportion to its condition, and the value of its productive industry and commerce; and hence you can readily deduce the amount of its productive industry and commerce from the average amount of its circulating money, and vice versa. Compare the average circulation of Massachusetts, Rhode Island, and Connecticut, from 1836 to 1850, with that of Ohio, and the other North-western States, or even with that of Maine, New Hampshire, and Vermont, and the reader will have a complete illustration of this truth.

This is the principle upon which Gregory King in 1696, and Humboldt in 1804, estimated the amount of money in circulation in each of the countries of Europe; and this is the principle upon which many of the estimates in the following table, and in table number IV. of this section, are formed. As nations are now accustomed to keep records of their foreign commerce, and as the record evidence of the circulation of paper money in the United States, Great Britain, and Ireland, is nearly perfect, these records furnish data for an estimate approximating to accuracy, of the amount of circulating money in every country of Europe, such as was not possessed by Humboldt when he wrote, nor by any author before his time.

NO. IV.

Estimates founded partly on official estimates and records of the population and circulating money, including coin and bank notes, in each country of Europe and America, and the amount to each person at the end of the year 1840.

	Population.	Circulating money	Amount to each person.
Great Britain	18.2 millions.	$192 millions.	$10 1-2
Ireland	8.2 "	44 "	5 1-3
France	34 "	272 "	8
Holland and Belgium	7.5 "	67 5 "	9
Spain and Portugal	15 8 "	79 "	5
Italy, (including Lombardy)	22.5 "	123 5 "	5 1-2
German Austria	15 "	60 "	4
German States	15 "	75 "	5
Prussia	14.5 "	65 "	4 1-2
Denmark, Sweden, and Norway	6 "	24 "	4
Turkey	9 "	22.5 "	2 1-2
Russia, Hungary, and other eastern nations of Europe	69.3 "	243 "	3 1-2
Total of Europe	235.0 "	1,267 5 "	..
United States	17.3 "	138 "	8
West India Islands	3.0 "	30 "	10
British North American Provinces	1.6 "	8 "	5
Brazil	6.4 "	38 "	6
Mexico, and all Spanish American nations	16.9 "	58.5 "	3 1-2
Total of Europe and America	280 "	1,549 "	5 1-2

NO. V.

Statement of the result of the foregoing facts and estimate of the amount of coin and paper money in circulation in Europe and America, and the average amount to each person at different periods from A. D., 1500 to 1840.

Years.	Coin.	Paper money.	Total.	Amount to each person.
1500	$156 millions.	.....	$256 millions	$1.50
1600	369 "	.....	369 "	3.00
1700	690 "	$5 millions.	695 "	4.50
1800	1,219 "	220 "	1,439 "	7.00
1810	1,335 "	395 "	1,730 "	7.95
1830	1,186 "	336 "	1,522 "	5.85
1840	1,200 "	340 "	1,540 "	5.50

As there was not a vast amount of paper money in circulation from 1805 to 1815 in several countries of continental Europe, as well as in Great Britain and the United States, which was really depreciated from 10 to 50 per cent. below specie, and yet passed nominally at par in the purchase of merchandise and other property, we may treat the circulation of paper-money in 1810 as equal, in the common transactions of trade, to $450,000,000, and the whole circulation as equal, nominally, to $8 to each person. Here we can see a good cause for a great decline of the prices of manufactured goods since 1810, independent of the less amount of labor required to produce them.

The largest amount of money, including bank-notes and coin, in proportion to the population, which ever existed in the civilised world, or, probably, ever will exist, was during the existence of the bloated paper currency in Great Britain, Russia and Austria, from 1805 to 1815; when half of Europe seemed deluded with the idea that mere promises to pay were as good as payment itself; and they sought to aid themselves with their miserable currency to conquer Napoleon. The paper, however, rapidly depreciated from 10 to 80 per cent., in proportion to the excess put in circulation beyond the commercial wants of those countries respectively, and their ability to redeem it in coin; and their golden and delusive dreams were soon dissipated. Nothing less than the frosts of a Russian winter gave the first check to the increasing and colossal power of Napoleon.

The invention of paper money seems to have been made by the English, the latter part of the seventeenth century, and first carried into effect by means of the Bank of England. It gained but little credit for many years; but such has been the mistaken confidence and delusion of the public in many countries on this subject, at several periods, that it has served to stimulate a wild spirit of gambling speculation, and has probably done more to foster reckless extravagance, fraud and knavery, and to promote dishonesty and corruption in business, during the past century, than all other causes combined.

Nearly $2,000,000,000 must have been lost by the holders of paper-money during the last century and a half.

The great Real Estate Bank was got up at Paris by John Law, in 1719, usually known as the Mississippi scheme; the stock of which was puffed into consequence, and rose several hundred per cent. in its exchangeable value; all Paris and a large portion of the capitalists and business men of France became excited on the subject, speculated largely in its stock, and fancied that they had made themselves rich; but in a few months the bubble burst, the bank exploded, and the circulation of the notes of the bank (which was extensive), as well as its stock, became worthless; and embarrassment, ruin and bankruptcy were suddenly spread, and extended throughout the nation. This disastrous experiment entirely cured the French people of their mania for paper-money, and they confined themselves to a specie-currency for more than two-thirds of a century; until the madness of the democratic party, during the French revolution, in the latter part of the eighteenth century, induced the government to issue many millions of paper-money, called assignats, which were payable in the confiscated lands of the clergy and nobles. This experiment failed also, and was very disastrous in its consequences, though not equally so as the great Mississippi scheme of Law.

During the American revolution our forefathers resorted to the expedient, which had become very prevalent in Europe, of issuing government notes, called continental money, to aid them in their emergency. From 1776 to 1781, $359,547,027 were issued by order of the American Congress, and it depreciated so rapidly that in 1780 it was not worth more than two and a half cents on the dollar; and in 1782 less than one cent on the dollar. The result was most distressing to the army, and very disastrous and ruinous to a large portion of the whole nation. It was funded in 1790 at only one cent on the dollar.

As heretofore shown in Table II. of Section 6, the paper money of Russia, Austria and Portugal, as well as that of England, France, and the United States, has been greatly depreciated, and great losses have consequently been sustained by the holders of it in each and all of those countries.

It is stated in Brande's Encyclopædia, that no fewer than two hundred and forty of the country banks failed in England and Wales during the years 1814, 1815, and 1816, occasioning nearly as much distress, loss, bankruptcy, and suffering, as the great Mississippi scheme of France in 1719. During the years 1816 and 1817 a great number of banks failed in the United States; many failed in 1825 also; and the failures in the United States during the revulsion, from 1837 to 1842 amounted to over one hundred and sixty, with a nominal and pretended capital of over $132,000,000, and a circulation of over $43,000,000.

A paper currency, which the maker is not able and legally bound to redeem in coin at the will of the holder, whether issued by the government, by incorporated or joint banks, or by individual bankers, is one of the greatest evils which can afflict any country. But notwithstanding the numerous frauds, losses and evils, resulting from paper-money, the conveniences and advantages arising from well-managed banks are very great; and banking is so interwoven with our system of doing business, that it is difficult and perhaps not advisable to attempt to dispense with bank-notes, as a part of the circulating medium of our country. Something, however, should be done to secure the public, and to prevent, as well as to punish fraud. The individual liability of bankers, without more speedy and efficient remedies to enforce such liabilities than the common law affords, and different judges from some we have in the United States, proves to be almost worthless. I entertain no doubt, however, that remedies may be devised which would make the individual liability of bankers available to promote the security of the public.

The public mind seems to be tending towards the following points, as necessary safeguards in our system of banking:—First, that government stocks in good credit should be deposited with some government officer, in pledge to redeem their outstanding notes; secondly, that such officer should keep the bank-plates, have all the notes struck off, countersigned and registered in his office, and delivered to the bankers, and that uniformity, as far as practicable, should be preserved, in the plates of all the notes of the same denomination in the State; thirdly, that every bank should keep on hand in specie, and in specie funds subject to draft at sight, an amount equal to from 30 to 50 per cent. of all their liabilities to the public, and to enable them to pay their debts in coin, or its equivalent, whenever called on; fourthly, that none but those who have capital to lend, and do not wish to borrow money, should become bankers, and to secure this object that no bank should be allowed to make loans to its directors, officers, or stockholders, either directly or indirectly; fifthly, that the directors, or other managing officers, should be personally liable for all the debts of the institution, and that the private property of the stockholders should also be holden to an amount equal to their stock; sixthly, that the power to alter and amend the charter, in order to correct abuses, should be reserved; and seventhly, that all violations of law, by the stockholders, as well as the officers, should be declared and punished as crimes; and that neither the bank nor any stockholder, director, or other officer thereof, should be allowed to set up any violation of law as a defense to a suit on any contract of such bank, bank-officer or stockholder.

The first point stated is substantially the basis on which the Bank of England (the first bank which ever issued notes) has always done business, and the same principle of banking is now in operation in the States of New York and Ohio. The second point is important to secure the stockholders of banks, as well as the public, against fraudulent and excessive issues; and also, to guard against counterfeits. This provision also, is in operation in New York and Ohio, under their general banking laws. The third point seems absolutely necessary to secure at all times the redemption of bank notes in gold and silver; and notwithstanding the opposition of bankers, it appears to be increasing in importance in the public mind. As to the fourth point, the case of the late United States Bank of Pennsylvania, as well as of numerous others, has created a very general impression in this country, that the payment of the capital stock of a bank in coin, to any amount whatever, affords but little security to the public, if the directors and officers of the bank can take it half or all out again in the shape of loans to themselves; that when the directors, managing stockholders, and officers, have thus loaned to themselves perhaps two or three times as much as the amount of their stock, it is often for their interest to have the bank fail, and its notes depreciated, to enable them to buy them up at half price, or less, and apply them in payment of their own obligations; their indirect gains by such failure being much greater than the loss of their stock. To allow speculators, as well as business men who want money, to manufacture paper money at pleasure and loan it to themselves, presents too many and too great temptations for over-issues and improper loans, to be consistent with a sound currency, and the security and safety of the public. The fifth and seventh are also important, to deter selfish and cunning men from attempting to make bank paper an instrument to defraud the public; and also to prevent them from setting up their own violations of law, to defeat the honest claims of their innocent, confiding, and deluded creditors. But what appears to me equally as important, and perhaps more so, than any of the points above named, is a radical change in the mode of electing directors, so as to give all the stockholders a fair voice in the election of directors, and the management of the bank, and not allow a few, who own a majority of the stock, to combine together and control the whole, for their own private advantage, regardless of the safety of the public, and of the rights of the other stockholders.

It is very difficult to sustain banks in agricultural States, against which there is a constant balance of trade; but very easy to sustain them, with ordinary prudence and good management, in manufacturing States, in whose favor there are generally heavy debts, as well as balance of trade. Hence

the necessity of greater checks and greater prudence, in the former than in the latter.

ART. III.—SWAMP LANDS OF MISSOURI.

The act of Congress, relinquishing the Swamp Lands to the respective States in which they lie, gives to Missouri 1,517,287 acres: much the largest part, and indeed nearly all of which is situate in the south-eastern part of the State.

Commencing in the neighborhood of Cape Girardeau, they extend southwardly, nearly in the direction of the Mississippi river, into the State of Arkansas. Their length in Missouri, in a direct line, is estimated at one hundred and eight miles: constituting throughout this entire distance a barrier between the river and the southern part of Missouri, and the northern part of Arkansas which may be regarded as impassable for all practical purposes. And hence, the country west of the these swamps, though destined to become one of the most interesting districts west of the Mississippi, has remained almost in a state of nature to the present time.

The General Assembly of Missouri will, doubtless, adopt some plan at its next session, to remove this impediment to the settlement and improvement of this interesting part of our State: for we can imagine no sound reason why the work should not be entered upon without delay. The Lands can be appropriated to no other purpose until the improvement is complete: and, whether they prove sufficient for that or not, the sooner the experiment is made the better. The only important question that can arise in the Legislature, is that touching the policy to be pursued in carrying on the work—whether the State shall undertake the improvement on its own account; or, whether it will contract with individuals to drain the submerged lands, construct levees, &c., for a portion of the land to be reclaimed. We have seen estimates, and heard many opinions expressed in regard to the probable cost: but no complete survey having been made, such opinions should have but little influence on the Legislature; but be the plan of carrying on the improvement whatever it may, a thorough survey should be regarded as an indispensable preliminary.

The lands to be reclaimed are regarded by those who are acquainted with the country, as being equal in fertility to any on the Continent; and, owing to their peculiar location, must become as valuable for farming purposes as any land in the Valley of the Mississippi, of equal distance from a large city. But to render these lands valuable, and to insure their settle-

ment and improvement, the obstructions to the outflowing of the water must be completely removed, and levees constructed te prevent inundation from high floods in the Mississippi river.

Consequently, if the improvement be undertaken by the State, she would be under the necessity of advancing the amount necessary to complete it before any means can be realised for that purpose by a sale of the land ; and if it should turn out in the end that the land reclaimed would not pay the cost of draining &c., the State would be compelled to bear the deficit. For the purpose, therefore, of guarding against this and other contingencies, it is prudent, at least, to inquire whether the end cannot be attained through the agency of individual enterprise, without incurring any other obligation on the part of the State than that of making the necessary surveys and contracts.

It is probable that if a complete survey were made by skil-engineers, individuals or companies might be found who would undertake to drain the submerged lands, construct the necessary dikes, levees &c., for one-half, or perhaps three-fourths of the land to be reclaimed. Bnt if the primary object can be effected by an appropriation of all the lands to be reclaimed, the State ought to be highly satisfied. If, however, the subject can be so managed as to have something left after the contemplated improvement shall have been completed, such overplus should not be disregarded.

Were the work let out to the lowest bidder to be paid for in land when reclaimed, the State would incur little risk of imposition on the part of the contractors : for their own interest would operate as a sufficient guaranty for the fulfilment of their contracts.

But it may be found upon examination that a portion of the submerged land in this State cannot be reclaimed without the co-operation of Arkansas ; and, compelled to wait on the movements of that State, the work in Missouri may be delayed for many years. To guard against such hindrance, we trust that the Legislatures of these States will endeavor to act in concert, and adopt a plan that will promote their mutual interest.

The following Table, copied from the report of the Commissioner of the General Land Office, shows the quantity of swamp lands reported by the Surveyor General up to the year 1849 :

States.	ACRES.	States.	ACRES.
Ohio,	303,329	Louisiana,	2,266,075
Indiana,	981,682	Michigan,	4,544,189
Illinois,	1,833,412.94	Arkansas,	4,907,673
Missouri,	1,517,287	Wisconsin,	1,259,269
Alabama,	436,450	Iowa,	33,813
Miss'pi,	2 239,987	Florida,	562,170
Total,	- - - -		20,785,336.94.

There is, doubtless, a large quantity of swamp lands in Florida and other new States, not embraced in the Commissioners' Report.

The following is a copy of the law relinquishing these lands to the States :

"AN ACT to enable the State of Arkansas and other States to reclaim the 'swamp lands' within their limits.

"*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That to enable the State of Arkansas to construct the necessary levees and drains to reclaim the swamp and overflowed lands therein, the whole of those swamp and overflowed lands, made unfit thereby for cultivation, which shall remain unsold at the passage of this Act, shall be, and the same are hereby granted to said State.

SEC. 2. *And be it further enacted*, That it shall be the duty of the Secretary of the Interior, as soon as may be practicable after the passage of this Act, to make out an accurate list and plats of the lands described as aforesaid, and transmit the same to the Governor of the State of Arkansas; and at the request of said Governor, cause a patent to be issued to the State therefor; and on that patent the fee simple to said lands shall vest in the said State of Arkansas; subject to the disposal of the legislature thereof: *Provided, however*, That the proceeds of said lands, whether from sale or by direct appropriation in kind, shall be applied, exclusively, as far as necessary, to the purpose of reclaiming said lands by means of the levees and drains aforesaid.

SEC. 3. *And be it further enacted*, That in making out a list and plats of the land aforesaid, all legal subdivisions, the greater part of which is 'wet and unfit for cultivation,' shall be included in said list and plats; but when the greater part of the sub-division is not of that character, the whole of it shall be excluded therefrom.

SEC. 4. *And be it further enacted*, That the provisions of this Act be extended to, and their benefits be conferred upon,

each of the other States of the Union in which such swamp and overflowed lands, known and designated as aforesaid, may be situated.

HOWELL COBB,
Speaker of the House of Representatives.
WILLIAM R. KING,
President of the Senate pro tempore.
MILLARD FILLMORE.

ART. IV.—MOULDERS' UNION FOUNDRY ASSOCIATION.

We commend the following account of the "Moulders' Union Foundry Association" to the special consideration of mechanics and artizans, under a strong impression that similar associations may be established in many other branches of industry, greatly to the advantage of those who enter into them.

We discussed this subject in the first volume of the "Western Journal," for the purpose of bringing it to the consideration of the General Assembly of Missouri; and, although a law, authorising the formation of corporations for industrial purposes was passed by that body, yet it contains certain restrictions which are calculated to abridge its usefulness. The first objection to this law is, that it requires all the stock to be paid in money. Owing to this provision, if one individual should possess real estate and others should own raw material and the necessary machinery and implements for carrying on a certain kind of business, they could not put these articles in as stock; nor, are mechanics or laborers allowed to receive stock for their services.

One of the objects of the law was to encourage mining: but, one owning mineral lands cannot become a member of a mining corporation without paying money for his stock. The absurdity of this restriction is so apparent, that we deem it unnecessary to enter into an argument to prove that it ought to be repealed.

The next objectionable feature of the law, is that which requires the capital of the association to be at least, $5,000. While this restriction is not less absurd than the first, it is yet more odious; for it denies a privilege to individuals of small means which it grants to the rich — a distinction which should never be recognised in a republican government; nor, should such a provision be permitted to remain on our statute books, unrepealed.

Several associations have been formed under this law; and, we are persuaded, that were the objections above noticed, removed, it would afford encouragement to many branches of industry which are now retarded for want of capital.

[Editors Western Journal.

From Cist's Advertiser.

"Eighteen months since, I prepared a statement of the history, character and operations of an Iron moulders' association, then forming at Industry, in this county, which was extensively republished in the journals of the day, as a practical evidence of the power and influence of associated labor, when placed upon a proper basis.

Within a few weeks a similar establishment, on the same principles, substantially, has gone into operation at California, a town recently laid out by A. P. Johnston and others, eight miles above our city, and on the bank of the Ohio river.

The great problem of the age is, and for some years past has been, what is the proper means of securing to labor its adequate remuneration, and its just social position in the community—heretofore, the one being far short of its proper earnings, and the other a libel and a satire on our republican institutions, which proclaim all men free and equal.

For this great object, various reformatory measures have been proposed—Fourierism, Socialism, Owenism, St. Simonianism, Icarianism, etc.—all built upon the community system, and recognizing one correct principle—the power of associated industry, by incorporating into their schemes such other elements of weakness and discord, as to have resulted invariably in failure.

Among these elements, I name the abandonment of the family relation and of the individual principle, and the casting into one common lot, the fortunes of the idle, the improvident, and the dissipated, with those of the prudent, the industrious and the moral members of society. Most, if not all, of these enterprises, also committed suicide in their renunciation of religious principle. The general result, therefore, as was predicted by intelligent persons, has been thus far a signal failure, as all pecuniary and social movements not based upon moral principle, always must prove.

Sympathising with the masses, I have always felt sad in the contemplation of the great fact, of every day observation, that with the improvements of the age, the exactions on labor become more oppressive as its rewards diminish. This is the more to be regretted, since all classes in society are interested that labor should be amply compensated—the real, if not the apparent interest of the capitalist employer, being the same. In the establishment of such associations as I have referred to, however, I see light emerging in the clearing away of surround-

ing clouds, and contemplate the dawn of a better state of things for the stout hands and willing hearts of the industrial and operative classes. These operations are destined, as I believe, to assign labor its just reward, and proper position in society. I will state their principle and organization, with as much brevity and simplicity as possible.

The necessary capital for the California establishment has been made up of stock to the extent of 140 shares, sixty of which constitute the foundry enterprise, the shares being in value one hundred dollars each, subscribed by those engaged in the movement. This sum was disbursed in the purchase of flasks, patterns, and raw materials of coal, coke, and pig metal —the building having been paid for, in stock, and the ground donated to the enterprise.

With this preparation and with seventeen practical moulders engaged in it, commenced the enterprise. A foreman and manager were appointed by the concern, with a per diem compensation for their services. It is a significant and distinctive feature of this movement, that these individuals receive less salary than any of the moulders earn for their day's labors—every thing here being paid as piece work, and at the highest price ruling elsewhere.

Every man is entitled to draw, at any time, any amount within the value of his earnings, although in point of fact, the usual average withdrawn is about one-fifth part, or twenty per cent. of the whole, being for the expenses of living—the residue accumulating until it enables the owners to purchase additional shares of stock, or until it may be needed for any other purpose, house-building for example. No person is employed in the foundry who is not a share holder, except the clerk. On the other hand, no individual can claim employment from the fact of his holding shares. The manager, who is elected by those concerned in the enterprise, engages or discharges, just as in any other establishment. The products of the labor are sold wholesale at the society's warehouse on Main street in Cincinnati, and at retail stores elsewhere.

Of course new stock is constantly in progress of creation, for the purpose of enabling the members to enlarge their investments, or to permit others to take an interest in its benefits either by laboring in it, or by investment, otherwise.

This additional capital is employed in adding to the stock of flasks, patterns, and purchase of additional materials.

It must be obvious that in the very nature of the case, these establishments congregate a very superior body of workmen here. Finer and neater work cannot be found elsewhere.

What the issue of this California enterprise will prove, may be inferred from the position of affairs in Industry at this time.

That concern has been carrying on a business so prosperous,

that after making extensive sales up to date, it has accumulated a stock of manufactured goods, to the value of twenty thousand dollars. This, together with their entire fall and winter manufacture, will be sold off before the first day of April next. The credit of this establishment in the pig metal market, is more than adequate to all its wants. During the two years of its existence, the aggregate capital of the concern has increased from 2,100 to 16,000 dollars.

A few details will suffice to show its operation on the business and prospects of individuals employed in the foundry.

One of the associates, after working fourteen months, during which time he drew out all his current expenses, balanced his accounts with a credit to him, converted into stock, to the value of eight hundred dollars.

Another, who has worked eighteen months here, has a town lot paid for, and five hundred dollars in stock, to his credit.

Another—the foreman of the establishment—has a town lot, with a brick house on it, paid for within 100 dollars, and four hundred dollars in stock, to his credit. This house and lot is amply worth 1,200 dollars. He has worked two years in this enterprise.

The moral results of this enterprise should not be lost sight of, in examining the subject. Most of these moulders are single men, who under the old order of things had no motive to save, and every inducement to spend money as fast as they earned it. Here they find their earnings grow gradually into sums, which will enable them to acquire homes of their own as soon as they assume the family relation, and a community is thus built up where all are, or may be owners, and not tenants alone.

This association, as well as its predecessor at Industry, is organized under the law of the State of Ohio, authorizing such partnerships. Joseph H. Bard is still the agent of the Industry establishment, whose warehouse is at No. 378 Main street; Holenshade & Mitchell, are the agent of that of California.—The depot is at their warehouse, No. 395 Main street.

These enterprises, practical as they are, in all their bearings, will doubtless shortly extend the associated labor principle to other industrial operations.

From the American Railroad Journal.

ART. V.—STIRLING'S PATENT WROUGHT IRON AND ALLOYS.

In the August number of the Practical Mechanic's Journal, we drew attention to the very valuable results obtained from Mr. Morries Stirling's process for toughening and strengthening cast iron, as a branch of practical improvement in which that gentleman has been eminently successful. As a sequel to our former notice, we have now to introduce to the practical mechanic the several other equally valuable compounds of wrought iron, and alloys of the most costly metals, which have been elucidated in the course of Mr. Stirling's elaborate researches.

For the strengthening of malleable iron, an alloy is made with block or grain tin, the mixture being accomplished in the puddling furnace. The addition of so small a quantity as a two-hundredth part of tin, produces a marked change in the appearance and quality of the iron; and a proportion of one-hundredth produces a metal which breaks with a chrystaline fracture, but works well under the hammer while hot, as well as in the squeezer, the rolls and the smithy, and has a fine smooth surface. This compound answers admirably for rolling, in combination with common iron, to form the upper surface rails and for similar purposes, where an anti-laminating quality is essential. Bismuth, antimony and arsenic, may in like manner be used with a somewhat similar effect.

The addition to zinc, whether metallic, or as an oxide or carbonate, as calamine, has also a very powerful effect upon malleable iron, which thus becomes brighter in color, and of a clearer surface, while it retains its ductility and fibrousness.—Copper added to the metal thus treated, hardens the malleable iron. A very slight proportion only is used—not more than from a two-hundredth to a one-hundredth of the mixed iron.

Manganese, mixed with cast iron, gives the resulting malleable iron made according to any of these processes a more steely character; the black oxide of commerce, in the proportion of one per cent. renders the puddling process more rapid, and gives increased hardness.

The process adopted in the improved manufacture is this:—Common iron being brought to a thoroughly liquid state in the puddling furnace, a proportion of from 3 to 4 pounds of calamine, to every puddling charge of 4 1-4 cwt. is thrown among it, and well incorporated with it. When forged, or squeezed, and drawn through the rolls, it becomes No. 1, or puddle bar, but it is in reality nearly equal in quality to No. 2 of the ordinary iron; and a second rolling brings it up to an equality with

No. 3, or best bar, thus effecting an economy in the manufacture to the extent of one entire process. Instead of common iron, No. 3 or No. 3 extra, toughened pig, may be used.—Wrought iron made from this is of a remarkably fiorous nature, the fibres being also much finer than when common iron is employed.

By another process, a proportion of from 2 to 4 pounds of tin, or from 1 1-2 to 3 pounds of metallic antimony, is added in the puddling furnace to each charge of 4 1-2 cwt. When boiled or puddled, squeezed, and rolled into No. 1, or puddle bar, the product is a very hard, crystalline, or anti-laminating iron. This is admirably adapted for the manufacture of nails and wheel tires. When adopted for this purpose, a pile is made up from three-fourths to five-sixths of No. 1 calamine iron, and from one-fourth to one-sixth No. 1 anti-laminating iron, the mass being rolled to the requisite section, having the anti-laminating metal on the upper surface of the rail, or on the outside of the tire. The junction of the two kinds of metal is quite perfect, as evidenced in several specimens now before us. The increase in cost, for securing this vital advantage of an anti-laminating quality, is only 7s. 6d. per ton.

The report of the commissioners appointed to enquire into the application of iron to railway structures, furnishes some useful data as to the ascertained strength of the iron under various tests.

In alloying the zinc and iron, Mr. Stirling's plan is to place in a cupola furnace, which has been used for melting either cast or wrought iron, and from which the charge has been run off, a quantity of zinc, which, melting easily, passes through the fuel, and coming in contact with the sides of the furnace, mixes with portions of the adhering iron. In this way an alloy of zinc, with from four to seven per cent. of iron, is produced; and this alloy is adopted instead of zinc alone, in the production of such alloys as are applicable for purposes for which brass and gun-metal are now used.

A very beautiful alloy, closely resembling gold, and named, from this reason, "British gold," is made by mixing this alloy of zinc and iron, with from one-sixth to one-fourth of an alloy of copper and manganese. The latter composition is produced by adding to melted copper a proportion varying from a two-hundredth to a fiftieth part of black oxide of manganese, covering the surface of the metal with a reducing flux, in order to reduce the oxide to the metallic state, and to prevent the access of air to the metal. When these two compounds are amalgamated, in the proportion of four parts manganese and copper to one of zinc and iron, a metal closely resembling standard gold is produced. A variation in the proportions of the two alloys correspondingly affects the color, hardness and tenacity

of the compound. As both the manganese and zinc have a hardening effect, a smaller quantity of one or both is to be used when a rolling metal is required, but the proportions we have stated give an easily workable and finely colored metal, possessing great malleability and ductility, and capable of a fine polish. A metal of good color may be obtained by using zinc alone, instead of the alloy with iron, or by substituting copper alone, instead of its alloy with manganese.

In all these alloys a small quantity of tin gives increased hardness. For some purposes, more particularly bearings, and portions of machinery exposed to frictional wear, the presence of from one to three per cent. of lead has a tendency to prevent heating.

To produce an alloy possessing the color and many of the properties of silver, but superior to other imitations of that metal in color, brilliancy, and susceptibility of polish, the alloy of zinc and iron is mixed, in various proportions, with copper and nickel, and with copper and manganese and nickel. Ten parts of copper, two of nickel, six of zinc and iron; or eight parts of copper, two parts of nickel, and four of the zinc and iron, are good proportions for this purpose.

The behavior of the metal intended for sheathing, bolts, and other similar purposes, when under test by Mr. Owen, of H. M. Dockyard, Woolwich, is shown by the following—

Abstract of a Statement made to the Lords of the Admiralty, June 4, 1848.

"The first series of experiments was made at Chatham on the patent alloys, for the purpose of ascertaining how the metal could be rolled and worked.

"It was reported—That the metal could be rolled as easily as copper into bolt staves, or sheathing, and at a heat not essentially different. Bolt staves, then rolled, were tried at Woolwich in the chain-testing machine, and broke with a strain of twenty-seven tons per square inch, being higher than any other metal used for such purposes. Iron breaks with a strain of 23 tons, and copper with 21.15 tons.

The next experiments were tried at Woolwich for ascertaining the strength of the metal as compared with the best sorts of gun metal. Its object was to determine how far it might be a substitute for gun metal in general castings, such as screw propellers, frame work, bolt, and deck nails, &c.

It was reported—That gun metal broke at 11 tons, while under precisely similar circumstances, the patent metal broke at 16 tons.

An experiment was then made on the stiffness of the two metals, as follows: bars of equal diameter (1-8 square inch)

were placed on supports at equal distances (2 feet 3 inches) and were then loaded with the same weight (6 1-2 cwt.) in the centre.

"It was reported—that the gun metal bent in the centre 5 7-16 inches, while the patent metal bent 1 2-16 inches; or as 18 is to 27.

"Another series of experiments on the manufacture and driving of bolt nails, was made at Portsmouth, with satisfactory results to all parties. A further series of experiments on their manufacture and comparative strength was again made at both Portsmouth and Chatham, and reported satisfactorily. All these experiments proved that the saving would be as great, at the average price of copper, as was at first stated; that is, that when copper is £100 per ton, the alloy would be £80 per ton. In addition to this, a saving is made of £4 per ton, owing to its lesser specific gravity.

"I would recommend its application to the following general castings: screw propellers, frame work, air pumps, cylinders, &c., bolt nails, deck nails, sheathing nails, (as recommended by Mr. Owen, the late supervisor of metals in the dockyard at Woolwich, who has tested the galvanic properties of the metal, and who has found it electro-positive to all copper, a quality which other sheathing nails do not possess); also for bolt staves, piston rods, and other uses where a metal that can be rolled like copper is required; also for sheathing, as it is much less acted upon by salt water, and other corrosive substances, than copper or gun metal, and on account of its closeness of texture, enabling the workmen to obtain a greater smoothness of surface. A corresponding increase of galvanic action is acquired, thereby decreasing fouling."

Most satisfactory evidence of the durability of the new alloy when applied for axle bearings, is afforded by Mr. Wright, of the carriage department of the London and northwestern railway, who, up to the end of 1848, had used no fewer than 3,000 of them for carriage axles; and by a report from the South-western railway, dated April, 1849, we find that two bearings, in van No. 25, put to work in June, 1848, and taken out in March, 1849, ran close upon 60,000 miles, and were not worn out when removed.

Messrs. Mears of Whitechapel, the eminent bell founders, have used these alloys for nearly every possible purpose with great success, and the practical experiments in rolling, tried at the Cwm Avon copper works, show the remarkable facility with which they are worked. The great management in machinery bearings, which the introduction of the new metal has everywhere brought about, satisfies us that we render good service to the practical mechanic by bringing it under his notice.

For the Western Journal.

ART. VI.—THE GREAT INDUSTRIAL EXHIBITION OF 1851.

"As the year of preparation slips away," says the London Athenæum, "the vast idea of this great exhibition begins to take palpable shapes, and project definite shadows. Whatever share England may take herself in the contest—in which the troops are all volunteers—it is now abundantly clear that her trumpet has been answered from all the States, and that the lists which she has opened, will be disputed by all the industrial armies of the world. The challenger must put her powerful sinews to the strain if she would hold her own against the universal spirit that she has evoked. Courier after courier is coming in to tell of the stir that is abroad; and amid the signals that are passing on every side, the ear already seems to hear the tread of nations on the march. "As an example," continues that paper, "let us refer to the spirit in which our nearest neighbor and most powerful rival, France, is taking the field. There, the challenge has been accepted in the high sense in which it was given. M. Dupin has issued an address to the manufacturers and producers of that country, urging them to sustain the honor of their own industrial banner, and pointing out the arms which they can wield with most effect." After quoting part of the philosophical reflections and ingenious suggestions of M. Dupin, the Athenæum adds—"Everywhere on the Continent of Europe the same spirit of honorable contest is aroused; and from beyond all the seas the heralds of coming industrial forces have been received by those who have the preparing of the lists and the presidency of the combat."

From other sources we receive the like information. It cannot now be doubted that the Industrial Exhibition of 1851, will be the grandest occasion of this age. It will present a convocation of all nations, and a congress of all arts. Europe, Asia, and America, the islands of the sea, in fine, every kingdom, tribe and tongue of civilized man, will have its representation of persons, mind, and matter, in London, during the coming year. The occasion will be a climax of peace, and the palace reared for the World's Fair, a most amazing monument of the progress of the age.

It is not for the people of Missouri to decline a contest where only men are competitors, and where the comparative munificence of nature in making up the abodes of men, becomes the subject of competition. Endowed by nature as countries seldom are, Missouri has nothing to fear by an exhi-

bition of her resources, even in the World's Fair. On the contrary, her people should exult in the privilege of entering the lists with other nations, and not let slip so rare an opportunity to vindicate their own superior advantages, and hold them good before an assemblage of the civilized world.

It is true, Missouri cannot compete with the countries of the old world, in the higher triumphs of science and art—in machinery, mechanism, the manufacture of fabrics for human comfort and luxury, nor even in the production of many of the common necessaries of life. But in the quantity and quality of the raw material, from which so many of the valuable results of civilization are obtained, and in the natural facilities for converting the raw material into its manifold useful shapes, Missouri cannot be excelled by any country on the globe.

It will be wise then for our people to know their strong points, and imitating the example of France, to put forth all their exertions in that field wherein they are most likely to stand pre-eminent. A few suggestions as to the proper mode of doing this, and of making available to our State the advantages offered by the approaching exhibition, may be both timely and acceptable:

It is desirable that there should be sent to the exhibition the finest specimens of iron ore with which Missouri abounds.—Purer ore cannot be found in the world. The president of the company owning and working the Iron Mountain, informs me that he will forward a boulder of ore from the surface of the Iron Mountain, which shall weigh from three hundred to five hundred pounds. I shall receive, in a few days, from the Moselle Iron works, on the Maramec river, about fifty miles west of St. Louis, a box of the most interesting specimens of ore abounding in that region. Arrangements are made for receiving a similar consignment from James' Iron works, further up the Maramec, the oldest, and in many respects, the most interesting Iron works in the State. The enterprising proprietors of the Pilot Knob should be and no doubt will be represented at London by boulders of their remarkable ore and by specimens of their manufactured article, produced by one continuous process into bloom Iron from the ore. The Iron Mountain Company will send specimens of as many as six varieties of manufactured Iron from their extensive Rolling Mill, now nearly completed, in the northern part of this city.

It is confidently believed that no country in the world, beside Missouri, will exhibit at London, iron ore so rich and malleable that it may be made directly into horse-shoes by a blacksmith at the usual blacksmith's forge. Missouri can do this, and it will be proper to send some specimens of suitable size and shape to have the experiment made, if desired, before the

committee that shall decide on the quality of iron ores, and award the premiums.

Missouri must excel in Iron ore. It is believed that she cannot be beaten in Lead ore. Measures have been taken to secure the transmission of rare and beautiful specimens from the Maramec region in Franklin county, and from the numerous and rich mines in Washington county. Many other mines could send massive and pure specimens, and it is hoped, several will go forward.

Copper ore has been promised by two gentlemen, and specimens will certainly be sent. No arrangements are yet made for the transmission of specimens of the zinc, nickel, cobalt, plumbago, and manganese to be found in the mineral region of Missouri. It is very desirable that specimens of each should go forward, and any person who may be able to send either, will render the State a service by so doing; for, although in these latter articles Missouri may not excel, the very possession of such a variety of metals, will give her an imposing rank and much consideration at the World's Fair.*

As in metals, so in valuable minerals, Missouri can show unwonted wealth. Specimens of the Cannel coal from near Jefferson City, from Cooper county, and from the higher Osage country, should have a place at the great exhibition. Steps are now taken to secure this result. The salines of the State, so numerous and so well adapted to profitable working, should not be neglected. Sealed bottles from the most strongly impregnated springs, would be convenient and appropriate articles of exhibition, and some one should see to their transmission.

In this connexion I must mention the fact, not generally known, that there is in Washington county, a bed of Kaolin, (China clay) now worked by Mr. Woolford, from which purely white transparent China has been made. Specimens of this ware have been sent to Liverpool, and have elicited much admiration. Mr. Woolford thinks that superior Kaolin cannot be found in China. Specimens of this clay, and, if possible, of the China ware manufactured from it, will be exhibited at the World's Fair, and with it, as a cognate material, the crude and ground felspar of Washington county, wrought by Mr. Woolford.

Arrangements are made to have the remarkable beds of silica near Ste. Genevieve, represented at London. A superior article for the manufacture of glassware, can nowhere be found. A few days since the city papers noticed the shipment of 1,000

* Since the foregoing communication was prepared, Dr. King, of this city, who is thoroughly acquainted with the mineral resources of Missouri, has promised the writer specimens of these metals and of other valuable minerals for exhibition at London. The proprietors of Mine La Motte can, and we hope will send at once to the Local Committee of St Louis, additional specimens of the rare metals found only in their mines.

barrels of this sand to Pittsburgh, for the Glass Works of that place. The Glass Works commenced here, will doubtless send specimens of their ware, and of this Missouri sand of which it is made.

Very fine sand, similar to the sand of Ste. Genevieve, exists in abundance on the lands of Nuckolls & Evans, proprietors of the Moselle Iron works, and also at points on the Missouri above.

The beautiful marble of Cape Girardeau, and the curious and interesting specimens of marble from the quarries in this county and almosti n this city, should not be omitted, in making up a full schedule and cabinet of Missouri's mineral wealth; nor should the porphyry and the granite of the mineral region, the white, the gray, the steel-colored and specular, suiting every fancy, and of admirable texture for building purposes, be neglected. The day is speedily coming when Missouri will from these sources, supply an older civilization in this great valley, with materials whereby it shall almost rival Greece and Rome in splendid and enduring architecture.

This is a hasty and imperfect review of what metallic and mineral wealth Missouri can send to the great Industrial exhibition. If there be any State pride in our people, they will act immediately and energetically, to secure a full show of these resources at the great Fair.

The advantages to be derived by our State from this exhibition are obvious: There will be congregated in London a million spectators of the wonderful Fair. The intelligence, the genius, the enterprise, the manufacturing experience and business sagacity of all nations will be represented there. Europe is growing old and crowded. Mines and minerals are failing, or wrought at increasing cost with increasing labor. The best investments of capital yield barely a living per cent. The minds of men will naturally be turning to new fields for the employment of their capital and labor. The metals and minerals of Missouri, so numerous and so pure, must draw attention. The astonishing advances made in the navigation of oceans by steam has removed the last barrier that hemmed in commerce and capital, and these agents of civilization are now cosmopolitan. The presence of representatives from Missouri can fix and improve the attention of inquirers at the great Fair; and the result possibly may be, shall we not say, probably will be, the formation of companies and colonies for settlement in our State, and the development of its wonderful resources by foreign capital, labor and experience?

But if nothing so definite or directly advantageous should ensue, we may reasonably expect that the purity and variety of Missouri minerals, reported as they would be, with all other facts concerning the Fair, in every journal in Europe, will

turn hither a constant tide of emigration, embracing perhaps thousands of miners, and operatives in those branches of industry wherein we so greatly lack the cheap labor and the experience of the old world.

If Missouri should perchance obtain the premium for the best iron, or lead ore, or other of her valuable minerals, the moral effect in favor of the State, in turning emigration and capital hither, would be tremendous.

In further advancement of this grand and desirable consummation, it will be advisable to take to London all the geological reports, surveys and land reports which have been made on the State of Missouri, and officially published by the U. States government. Accompanying these should be maps of the State, showing its admirable position in the great Mississippi Valley, its supreme advantages of inland commerce, and the locality of its mines of metals and minerals. But chiefly, as chief in interest to the old world, should there be a map of the counties from St. Louis to the western border of the State, embracing the surveys for the route of the Pacific railway, with accurate delineations of the beds of iron and lead ore, the salines and coal fields that will be traversed by the road. Specimens of these minerals taken from the line of surveys, and exhibited with the map of the survey, would give a vividness to the great promise of the international railway, in the matter of permanent and profitable business, more than all else calculated to give confidence to foreign capitalists, who might, indeed, without awaiting to be appealed to, come forward and offer their subscriptions of money, their labor and their iron, in the prosecution of the great work. It is to be hoped that the directors of the Pacific railroad will depute their president to attend the great Fair, and make use of its opportunities for promoting the interests of the road.

I am happy to say that Mr. Kirkwood, the chief engineer of the Pacific railroad, has promised a map such as I have described, with a report of surveys when completed, for use at the London Exhibition. Maps and drawings, though excluded by rule, from the exhibition as works of art, may possibly be admitted in illustration of the locality and extent of minerals, which are legitimate articles of show and competition.

The local committee of this State have promptly done their part, and it remains for those intending to be exhibitors to act. No time can be lost, for all articles for exhibition must be in London by the *first day of March*, 1851. They should, therefore, be in New York very early in January. Every article must be submitted to the local committee of St. Louis, of which Mr. Thomas Allen is chairman, otherwise it will not be received into the exhibition. This committee will direct the articles

to the proper persons in London. Let us hope that action will be prompt throughout the State, and that the people of Missouri will show forth their State as it can be shown, an empire in dimensions, rich beyond compare in the endowments of nature, and reaching forward by inevitable destiny to a future of unparalleled magnificence.

My apology for addressing you this communication, if apology be needed for betraying a deep interest in the high rank of Missouri at the World's Fair—will be found in this: that having determined to attend the London Exhibition, and having been requested to act as agent by all those exhibitors, whom I know to be certainly intending to be represented, I have diligently studied how I might best advance their interests; and in so doing, the subject has grown upon my mind until I have been led to believe we could serve the State at large by securing a full show of its native wealth in London. To accomplish this object, nothing seemed better calculated than to point out clearly how advantages to the State might be derived. I have tried to do that in the present communication, and I hope the endeavor will meet with approbation and success.

A. S. MITCHELL.

St. Louis, Nov. 18, 1850.

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In connection with the foregoing article, we publish a circular issued by the Central Committee of the United States, on the Industrial Exhibition in London, in May, 1851; and, also, the circular of the Committee for the State of Missouri.

The natural wealth of Missouri—its soils and minerals—as also the advantages of its geographical position, have never been fully appreciated either at home or abroad. The great Industrial Exhibition of 1851 will afford an opportunity of making known its resources to the intelligent minds of all Europe; and nothing should be left undone, on our part, to improve the occasion.

We are much gratified to learn that the accomplished author of the foregoing communication has resolved to be present at this great Exhibition as the representative of Missouri; for we are persuaded that the interests of our citizens could not be confided to one more zealous or capable of representing them. But no one individual can do justice to the varied interests of Missouri upon such an occasion. The State should be represented by at least a dozen of her most intelligent citizens—each department of industry should have its respective representative: and more than one individual capable of describing the geology and minerals of the State, should be present; for it will be impossible for one to do justice to this department. This may be regarded as the great

interest of Missouri: for as rich as she is in soil, she is yet more rich in minerals; and with a view to the development of this great source of wealth, it would, in our opinion, be sound policy on the part of her General Assembly, to appoint several scientific individuals as delegates; and also, make a reasonable appropriation to defray their expenses. We have a number of scientific gentlemen in the State who have devoted much time to the study of its minerals; but it would be unreasonable to expect them to devote their time and means in the public service without remuneration. They should not expect to make money by their employment; but they should be supplied with means that would enable them to gain access to the society of the learned men of other countries, without drawing upon their own resources. Editors.

"Washington, September 16, 1850.

"The Central Committee of the United States on the Industrial Exhibition to be held in London in May, 1851, beg leave to invite the attention of the Governors of the several States, of the local committees by them appointed, and of their fellow citizens generally, to the interesting subjects involved in this great concourse of the industry of nations, and to the peculiar aspects under which it addresses itself to the skilful and industrious of all classes in the United States.

This committee cannot but view this great exposition of human industry and productive skill, as one in which every nation on the globe has a direct and positive concern. Its results and its history, will go down to future generations, marking the actual state of arts and civilization in the middle of the nineteenth century. It will stand as at once an evidence and index of the progress which the humanizing arts of peace have made, and are now making in every Empire and Republic, Kingdom, Principality, and Province of the world.

The productions of American industry, which will be entitled to places in the Exhibition, are not limited to articles of manufacturing, mechanical, or any other single department of labor or of skill. The farm, the garden and the dairy, the forest and the mine, the factory and the workshop, the labaratory and the studio, will all be entitled to their respective positions —and it is earnestly hoped that no considerations will be allowed to prevent a full and honorable representation of every department of our natural resources, ingenuity, and industry.

To convey some impression of the number and variety of objects which America is capable of furnishing to the Exhibition, we may be permitted to enumerate a *few* of the prominent classes.

Among animal substances, it is believed that samples of beef, pork, hams, butter and cheese, wool and hair, feathers, down

and fur, lard and lard oil, stearine candles, honey and wax, spermaceti, skins, hides and leather, with articles manufactured from the same, may all be with advantage sent from the United States. Many of our dealers in provisions can now demonstrate that they understand how to cater for the most refined taste, as well in the style of putting up, as in the intrinsic qualities of their articles.

Among vegetable productions we shall not forget to send samples of wheat, flour, Indian corn, cotton, rice, tobacco, hemp and cordage, the starch of wheat, of potatoes, and especially of Indian corn; sugars of both cane and maple, raw and refined; timber, and articles manufactured therefrom, especially when made in large quantities and by machinery. By taking longitudinal and transverse slices or sections one or two inches in thickness from the trunks of trees, we may at little expense send the most striking proofs of our forest riches.—The sycamore and whitewood of Kentucky, the cypress of Mississippi and Louisiana, the live oak of Florida, the pine of Carolina, Maine, Minnesota, and Oregon, the oak, hickory, cherry, and black walnut of numerous States, the cedar and locust so famed for resisting decay, the hickory so tough and durable, the ash so light and yet so elastic, the bass wood, adapted for coach and car bodies, the birds-eye maple for ornamental furniture, with multitudes of others, may by this means be displayed with surfaces smooth or rough, varnished or unvarnished, and form a novel and striking feature of the exhibition. Will not some of our enterprising lumbermen take this great department in hand? In making cross sections of trees the bark should be carefully retained when practicable.

Among mineral substances which ought certainly to appear at the exhibition, are iron ores in all their varieties, from that of the Iron Mountain of Missouri to the rich veins of Georgia, Carolina, Virginia, Pennsylvania, New York, Vermont, New Hampshire, Maine, and numerous other States. The cobalt and lead of Missouri, Iowa, and Wisconsin, the chrome of Maryland, the zinc oxides of New Jersey and Missouri, the plumbago of North Carolina and of Pennsylvania, are a few of the coloring materials which ought to attract notice and win approbation. Stones used for building and other useful and ornamental purposes, should not be omitted, particularly such as excel in firmness, fineness of texture, purity, durability, and a susceptibility of high polish.

The gold and mercury of California, the silver of North Carolina, the copper of Michigan, the manufactured iron of many States, will evince our abundance in both the useful and the precious metals; and among articles manufactured from metals, we may send numerous varieties of cutlery, edge tools, surgical instruments, augers, scythes, axes, drawing knives,

hoes, shovels, butt hinges, door springs, sash and shutter fasteners, locks and latches, rifles, revolvers, bowie knives, gold pens, ever pointed pencils, clocks, chronometers, astronomical and other telegraphs.

We must have ploughs and cultivators, reaping, cornshelling, thrashing and winnowing machines. Nor must we forget to show how we save labor and diminish toilsome drudgery, by our card making machines, our screw machines, pin machines, hook and eye machines, nail and spike machines, and percussion cap machines, as well as by our cotton gins, our dredging machines, our quadruple printing presses, our brick machines, and our leaden pipe and leaden bullet machinery.

We need not fear to show samples of iron castings in hollow ware, of sheet, bar or railroad iron, of stoves, furnaces for house-heating, or ranges for cooking with anthracite, bituminous coal, or other fuel. Even in gilded, bronzed, and other ornamental work in metals, in chased and burnished silver ware, we have workmen who may satisfy the most fastidious European taste. If not too urgently engaged in filling orders at home, it is earnestly hoped that our manufacturers, of mathematical, philosophical and optical instruments will put before the discriminating eyes at London, a few specimens of their handiwork.

In connection with our metallurgic industry, we must not forget the mineral fuel by the aid of which it is prosecuted.—Our numerous varieties of anthracite, semi-bituminous, highly bituminous and cannel coals, must be made to prove how far the markets of the world as well as our own manufactures, navigation, and locomotion, can be supplied from the coal mines of the United States.

Machinery for working in wood, as shoe-last and gun-stock machines, bucket machines, sash and blind machines, box and match machines, with numerous forms of sawing, planing, matching and stave-dressing machines, would evince the fertility of invention among our workers in this class of substances.

Among textile fibrous manufactures we shall be able to offer cotton goods, plain and figured in great variety, together with cordage and canvass of the same material, as well as of American hemp. Among the woolen and mixed goods, woven wholly by power looms of American invention, we shall be expected to send Brussels carpets, ingrain and tapestry carpets, of various patterns.

In reference to our maritime architecture and nautical skill, in general, with all the details of equipment, perhaps no better evidence could be offered than would be given by freighting some suitable public vessel, with American contributions to the Exhibition, for the purpose of conveying them to England,

and this is perhaps the only way in which the Government, as such, could give effective aid to the objects of our present undertaking.

To the foregoing very brief sketch of a few objects to which attention may be beneficially directed, we may add, that a due discrimination will no doubt be exercised, in respect to the classes of objects as well as the individual specimens which ought to be sent to the exhibition. It is for this reason, that this Central Committee has invoked, through the Governors of the several States, the aid of local committees, having direct cognizance of the merit of the articles proposed to be exhibited.

It is earnestly requested that all committees designated in the several States should enter with as little delay as possible on the discharge of their duties, that they should give to exhibitors all needed advice and information, as to the suitableness or unsuitableness of the articles, the proper quantity to be forwarded, the means of conveyance and the agencies either in this country or England, by which the proper care will be taken of their packages.

Where it is probable that all the four divisions of articles, viz: Raw Materials and Produce, Machinery, Manufactures, Sculpture and the Plastic Arts, will be brought forward for approval, the local committees would doubtless find it advantageous to divide themselves into sub-committees with a view to assign to each sub-committee one of these great departments, not precluding joint consultation on points of difficulty or of special importance.

It cannot be too earnestly impressed on the minds of all local committees, that to whatever class of the exhibition objects may pertain, they ought, in order to warrant their being sent forward, to possess the merit of either *novelty*, *variety*, or *high excellence*.

They ought to represent in some one or other of its departments, either our national industry and ingenuity, or the natural resources on which they are employed.

It will contribute much to the facility of forwarding goods to the exhibition to form depots in our principal seaports, as at New Orleans, Charleston, Baltimore, Philadelphia, New York and Boston, where the articles may be conveniently stored until the time of sending them to London. They should not be shipped so as to arrive before the first of January, 1851, and cannot be exhibited if received at London later than the first of March following. Every package must be entered on a suitable bill of lading, and be accompanied by a certificate from the central authority of the United States, attested by

the proper officer approving of the transmission of the object therein contained, to the care of the British Commissioners.

The form of a return for an exhibitor is hereunto annexed, in which the amount of space, vertical or horizontal, is to be set forth.

The accompanying letter under date of 5th of August, 1850, and the circular to which it relates, addressed by the Royal Commission to the various commissions abroad, to which are annexed the several proposals made by agents in the different ports of England, together with the "information for the use of foreign exhibitors," and the article "on the prizes and juries," which bears date July 29th, 1850, will give, it is believed, all needed information to American exhibitors, in respect to the conditions and circumstances of the exhibition.

In conveying articles from the place of production to that of embarcation for England, it is hoped that steamboat and railroad companies in the United States will treat American exhibitors with the same liberality which has been manifested abroad, where goods destined to the exhibition are conveyed free of charge.

CIRCULAR OF THE COMMITTEE FOR THE STATE OF MISSOURI.

The undersigned, having been appointed by the Governor, a committee for the State of Missouri, to correspond with the Central Authority, and to select from such articles as may be submitted by the citizens of this State, those most suitable for the exhibition, are prepared to give any advice or information which the Central Authority have enabled them to impart.

The exhibition of the works of industry of all nations, to be held in London, is announced by the Royal Commissioners, to be opened on the 1st day of May, 1851.

Articles intended for the exhibition will be received only between the first of January and the first of March next, must be forwarded at the owners' expense and risk, and must first receive the sanction of the local committee, and, through them, of the Central Authority at Washington City. The owner or agent is permitted, if he wishes, to go forward with his goods himself, and attend to their being fitted up, &c. There is, however, an American agent appointed at Liverpool, who will receive the goods, and attend to the proper disposition of them, and it is announced that a national vessel will be detailed to

transport the articles intended for exhibition, to London.—There are also English houses at Liverpool and London, that have liberally offered to receive and forward the goods intended for the exhibition, without any charge for lighterage, wharfage, or reloading. The articles, it is stated, will be admitted free of duty, if re-exported; but, if sold in England, will be subject to duty, for which bonds will have to be given on entry. But every facility is provided for getting the goods to the house of exhibition, with as little expense as possible, and without the usual delays and formalities.

For general information, we state that the plan of the exhibition comprehends nearly every description of the results of human industry, from the raw material to the most perfect achievement of mechanical skill. The articles are to be classified, but the productions of differont nations are permitted to maintain their identity. A very general division of the objects of exhibition is indicated by the following sections, which have numerous sub-divisions:

Sec. 1. Raw materials and produce—illustrative of the natural productions on which human industry is employed.

Sec. 2. Machinery for agricultural, manufacturing, engineering, and other purposes, and mechanical inventions—illustrative of the agents which human ingenuity brings to bear upon the products of nature.

Sec. 3. Manufactures—illustrative of the result produced by the operations of human industry upon natural produce.

Sec. 4. Sculpture, models, and the plastic art generally—illustrative of the taste and skill displayed in such applications of human industry.

The objects which seem to be excluded, are spirits, wines, and fermented liquors, all highly inflammable articles, all live stock, and oil paintings, and water-color paintings, drawings and engravings.

It is understood that some $100,000, or more, are to be distributed in premiums.

It is for those interested to determine whether Missouri shall be represented in this grand convention of the industry of the globe. It is for them to say whether the State is to be benefitted by an exposition to the world of the nature of the great resources of Missouri. The Central Authority of this country, do us the honor publicly to refer to the iron, the cobalt, the lead, and other minerals of this State, as though specimens of them would be desirable, and as though they would be expected to occupy an appropriate place in this exhibition of the nations. Specimens of our great agricultural staples, wheat,

Indian corn, hemp, tobacco, &c., might well be included, and selections might be made of them which would challenge attention, if they should not maintain a forward rank in the race of competition.

We will only add, that we are ready to discharge, and very cheerfully, the duty imposed upon us, by virtue of our appointment as a local committee.

Any citizens of Missouri intending to exhibit, should forward their names, with specifications of the objects, as soon as practicable. The committee cannot promise that any article would be received which should leave this city after the first of February. Communications may be addressed to the chairman, or he may be seen personally at his office, corner of Olive and Main streets, at 12, M., each day.

THOMAS ALLEN, Chairman.

HUDSON E. BRIDGE,
WILLIAM PALM,
O. D. FILLEY,
} Committee.

The other two members of the committee, not present, are SAMUEL GATY and ALFRED VINTON.

PRIZES AND JURIES.

Her Majesty's Commissioners have had under their consideration the prizes to be awarded to exhibitors, and have resolved to take immediate steps for having (three) medals struck of various sizes and different designs, it being their opinion that this is the form in which it will, generally speaking, be most desirable that the rewards should be distributed. They have decided to select bronze for the material in which the medals are to be executed, considering that metal to be better calculated than any other, for the development of superior skill and ingenuity in the medallic art, and at the same time the most likely to constitute a lasting memorial to the Exhibition.

With regard to the mode in which the prizes are to be awarded, the commissioners think it inexpedient to establish beforehand rules so precise as to fetter the discretion of the Juries upon which the task will ultimately devolve. It will be sufficient for the present to indicate the general principles to which it will probably be advisable to conform in the award of prizes for successful competition in the several departments of the Exhibition.

In the department of Raw Materials and Produce, for instance, prizes will be awarded upon a consideration of the value and importance of the article, and the superior excellence of the particular specimens exhibited; and in the case of prepared materials, coming under this head of the exhibition, the Juries will take into account the novelty and importance of the prepared product, and the superior skill and ingenuity manifested in the process of preparation.

In the department of Machinery, the prizes will be given with reference to novelty in the invention, superiority in the execution, increased efficiency, or increased economy, in the use of the article exhibited. The importance, in a social or other point of view, of the purposes to which the article is to be applied, will also be taken into consideration, as will also the amount of the difficulties overcome in bringing the invention to perfection.

In the department of Manufactures, those articles will be rewarded which fulfil in the highest degree, the conditions specified in the sectional list already published, viz: Increased usefulness, such as permanency in dyes, improved forms and arrangements in articles of utility, &c.; superior quality, or superior skill in workmanship; new use of known materials; use of new materials; new combinations of materials, as in metals and pottery; beauty of design in form, or colour, or both, with reference to utility; cheapness, relative to excellence of production.

In the department of Sculpture, Models, and the Plastic Art, the rewards will have reference to the beauty and originality of the specimens exhibited, to improvements in the processes of production, to the application of art to manufactures, and, in the case of models, to the interest attaching to the subject they represent.

These general indications are sufficient to show that it is the wish of the Commissioners, as far as possible to reward all articles in any department of the Exhibition which may appear to competent judges to possess any decided superiority, of whatever nature that superiority may be. It is the intention of the Commissioners to reward excellence in whatever form it is presented, and not to give inducements to the distinctions of a merely individual competition. Although the Commissioners have determined on having three medals of different sizes and designs, they do not propose to instruct the Juries to award them as first, second, and third in degree for the same class of subjects. They do not wish to trammel the Juries by any precise limitation; but they consider that the Juries will rather view the three kinds of medals as a means of appreciating and distinguishing the respective characters of the subjects to be rewarded, and not of making distinctive marks in

the same class of articles exhibited. They fully recognize that excellence in production is not only to be looked for in high-priced goods, in which much cost of labour and skill has been employed, but they encourage the exhibition of low priced fabrics, when combining quality with lowness of price, or with novelty of production. They can readily conceive that Juries will be justified in giving the same class medal to the cheapest calico print, made for the Brazilian or other South American market, as they would to the finest piece of *mousseline de soie* or *mousseline de laine*, if each possessed excellence of its own kind.

In selecting the Juries who are ultimately to guide them in making their award, the Commissioners will take the greatest pains to secure the services of men of known ability to form a judgment, above the suspicion of either national or individual partiality (for which purpose they will be composed partly of Englishmen, and partly of foreigners;) and who may be expected to recognize and appreciate merit wherever it may be found, and in whatever way it may show itself.

No competitor for a prize in any section will be allowed to act upon a Jury to award the prizes in that species of article in which he is a competitor.

The names of persons selected to act on these Juries will be published when decided upon.

All persons, whether being designers or inventors, the manufacturers or the proprietors of articles, will be allowed to exhibit; but they must state the character in which they do so. They may also state the names of all or any of the parties who have aided in the production. In awarding the prizes, however, it will be for the Juries to consider, in each individual case, how far the various elements of merit should be recognized, and to decide whether the prize should be handed to the exhibitor, or to one or more of those who have aided in the production.

Lastly, the Commissioners, in announcing their intention of giving medal prizes, do not propose altogether to exclude pecuniary grants, either as prize of successful competition, or as awards under special circumstances, accompanying, and in addition to the honorary distinction of the medal. There may be cases in which, on account of the condition of life of the successful competitor (as, for instance, in the case of workmen,) the grant of a sum of money may be the most appropriate reward of superior excellence; and there may be other cases of a special and exceptional nature, in which, from a consideration of the expense incurred in the preparation or transmission of a particular article entitled to a prize, combined with a due regard to the condition and pecuniary circumstances of the party exhibiting, a special grant may with

propriety be added to the honorary distinction. The Commissioners are not prepared, for the present at least, to establish any regulations on these heads. They consider it probable that a wide discretion must be left to the Juries to be hereafter appointed in respect to the award of money prizes, or the grant of money in aid of honorary distinctions; it being understood that such discretion is to be exercised under the superintendence and control of the Commission.

Articles marked "Not for competition" cannot be admitted.

J. SCOTT RUSSELL,
STAFFORD H. NORTHCOTE.

PALACE OF WESTMINSTER, July 29, 1850.

A NEW AND BEAUTIFUL WARE.

"We were shown on Saturday a new ware, which for beauty of finish and durability, is not surpassed by any thing of the kind within our knowledge, imported or domestic. It comes from the Bennington — Vermont — Flint Enamel Ware Works, and is composed entirely of mineral substances, without a particle of clay. It is thus rendered very strong, and is fire proof—two very important qualities with housekeepers. Its beauty of finish and smoothness of surface is fully equal to the best China or porcelain yet known. In addition to all these essential qualities, strength, durability and beauty, it is said to be afforded at lower prices than similar articles of clay ware. Its uses are not confined to the usual crockery ware, but the inventors make from it door knobs, daguerreotype frames, fancy brackets; letters for sign boards, figures for numbering, and almost every thing of the sort. The right to manufacture it has been patented, and the ware will probably soon be brought into the market.

COMMERCIAL STATISTICS.

TRADE AND COMMERCE OF NEW ORLEANS.

We copy the following Tabular Statement of the trade and commerce of New Orleans, for the past and previous years, from the "Merchant's Magazine." These statistics appear to have been derived from the "New Orleans Price Current, Commercial Intelligencer, and Merchant's Transcript," of September 2d, 1850.

A table showing the receipts of the principal articles at New Orleans from the interior, during the year ending 31*st August*, 1850, *with their estimated average and total value.*

Articles.	Amount.	Average.	Value.
Apples, bbls.	37,244	$3 00	$111,732
Bacon, assorted, hhds. & casks,	38,336	40 00	1,533,440
" " boxes	28,941	20 00	578,820
" hams, hhds. and tres.	19,335	45 00	870,075
" in bulk, lbs.	209,045	05	10,452
Bagging, pieces	58,321	14 00	816,494
Bale rope, coils	86,104	8 00	688,832
Beans, bbls.	9,307	3 00	27,921
Butter, kegs and firkins	51,058	4 00	204,232
" barrels	1,772	20 00	35,440
Beeswax	367	40 00	14,680
Beef	49,473	9 00	445,257
" tres.	15,798	15 00	236,970
" dried, lbs.	48,219	06	2,893
Buffalo robes, packs	358	65 00	23,270
Cotton, bales	837,723	50 00	41,886,150
Corn meal, bbls.	5,187	2 75	14,264
" in ear	42,719	90	38,447
" shelled, sacks	1,114,897	1 40	1,560,855
Cheese, boxes	62,809	3 00	188,427
Candles	55,300	6 00	331,836
Cider, bbls.	903	3 00	2,709
Coal, western	600,000	45	270,000
Dried apples and peaches	2,999	3,00	8,997
Feathers, bags	5,900	30 00	177,000
Flaxseed, tres.	217	10 00	2,170
Flour, bbls.	591,986	5 75	3,403,919
Furs, hhds, bundles and boxes	444	.....	400,000
Hemp, bales	34,792	20 00	695,840
Hides, No.	43,542	1 25	54,427

Articles.	Amount.	Average.	Value.
Hay, bales	56,258	4 00	225,032
Iron, pig, tons	20	25 00	500
Lard, hhds	215	60 00	12,900
" bbls. and tcs.	228,019	18 00	4,104,342
" kegs	302,366	3 00	907,098
Leather, bundles	5,233	25 00	130,825
Lime, western, bbls.	32,060	90	28,854
Lead, pigs	415,400	3 00	1,246,200
" bar, kegs and boxes	631	18 00	11,358
Molasses, esti'd crop, galls.	12,000,000	20	2,400,000
Oats, bbls. and sacks	325,795	1 00	325,795
Onions, bbls.	13,024	2 00	26,048
Oil, linseed	1,098	30 00	32,940
" castor	2,091	70 00	146,370
" lard	14,712	24 00	353,088
Potatoes	166,003	2 00	332,006
Pork, tcs. and boxes	543,694	9 50	5,165,093
" boxes	15,695	20 00	313,900
" hhds.	13,968	40 00	558,720
" in bulk, lbs.	15,862,431	03 3-4	594,841
Porter and ale, bbls	804	8 00	6,132
Packing yarn, reels	4,131	6 00	24,786
Skins, deer, packs	1,375	25 00	34,375
" bear	37	15 00	555
Shot, kegs	4,435	20 00	88,700
Soap, boxes	9,930	3 00	29,790
Staves, M.	6,000	35 00	210,000
Sugar, (estimated crop) hhds.	247,923	50 00	12,396,150
Spanish moss, bales	4,337	6 00	26,022
Tallow, bbls	4,862	20 00	97,240
Tobacco, leaf, hhds.	79,404	100 00	7,940,400
" strips	9,400	140 00	1,316,000
" stems	3,000	20 00	60,000
" chewing, kegs & boxes	2,021	20 00	40,420
Twine, bundles and boxes	2,118	12 00	25,416
Vinegar, bbls	180	5 00	900
Whisky	117,753	9 00	1,059,777
Window glass, boxes	4,887	5 00	24,435
Wheat, bbls. and sacks	57,508	2 00	115,016
Other various articles, estimated at		-	5,000,000
Total value - - -		-	$96,897,873
" 1848–9 - -		-	81,989,692
" 1847–8 - - -		-	79,779,151

Exports of Cotton and Tobacco from New Orleans for the year, commencing on the 1st of September, 1849, and ending on the 31st of August, 1850.

Exported to	Cotton, bales.	Tobacco, hhds.	Exported to	Cotton, bales.	Tobacco, hhds.
Liverpool - -	378,155	6,662	Spain and Gibraltar -	46,296	4,726
London - - -	1,367	6,723	Havana, Mexico, &c -	2,292	....
Glasgow and Greenock	10,857	....	Genoa, Trieste, &c - -	36,362	5,874
Cowes, Falmouth, &c.	3,741	3,435	China - - -	....	....
Cork, Belfast, &c -	3,069	....	Other foreign ports - -	6,496	1,376
Havre - -	112,159	718	New York - - -	84,891	11,305
Mordeaux - -	1,006	579	Boston - - - -	109,089	1,169
Aarseilles - -	3,618	769	Providence, R. I- -	....	....
Nantz, Cette & Rouen	630	....	Philadelphia - - -	15,616	1,291
Amsterdam - -	....	....	Baltimore - - -	4,017	277
Rotterdam and Ghent	572	824	Portsmouth - - -	....	....
Bremen - - -	1,801	7,719	Other coastwise ports	230	337
Antwerp, &c - -	11,994	2,244	Western States - -	....	....
Hamburg - - -	112	573			
Gottenburg - -	5,021	1,365	Total - - -	838,591	57,655

Total exports of cotton from New Orleans for ten years, commencing 1st September and ending 31st of August in each year.

	1849-50.	1848-9.	1847-8.	1846-7.	1845-6.
Great Britain - - -	397,189	645,018	654,083	385,368	562,320
France - - -	117,413	154,647	140,968	96,719	169,628
North of Europe - -	25,196	61,062	50,056	26,297	28,841
South of Europe and China	84,950	100,765	104,751	57,623	84,086
Coastwise - - -	213,843	205,811	352,039	159,501	220,082
Total - - -	838,091	1,167,303	1,201,897	724,508	1,064,857

	1844-5.	1843-4.	1842-3.	1841-2.	1840-1.
Great Britain - - -	585,888	527,675	679,438	421,450	430,310
France - - - -	125,020	119,980	180,875	183,272	183,931
South of Europe - -	33,035	17,907	50,882	21,207	9,836
North of Europe and China	92,458	52,855	43,543	23,506	36,364
Coastwise - - -	148,215	176,968	134,132	99,832	160,847
Total - - -	984,616	895,375	1,088,870	749,267	821,288

Total Exports of Tobacco from New Orleans for ten years, commencing 1st of September, and ending 31st of August in each year.

	1849-50.	1848-9.	1847-8.	1846-7	1845-6.
Great Britain - - -	16,820	14,017	19,867	9,695	24,505
France - - - -	2,056	10,640	4,954	3,497	4,288
North of Europe - - -	12,725	7,039	10,475	8,018	13,301
South of Europe and China	11,975	10,347	12,079	17,849	12,516
Coastwise - - - -	14,379	10,853	12,989	11,317	7,435
Total - -	57,955	52,896	60,364	50,376	62,045

	1844-5.	1843-4	1842-3.	1841-2.	1840-1.
Great Britain - - -	12,553	22,523	27,437	20,969	20,665
France - - -	9,013	11,104	11,645	6,974	6,812
North of Europe - - -	19,051	20,175	21,618	20,252	8,040
South of Europe and China	11,029	14,342	7,636	9,053	5,645
Coastwise - - - -	17,033	13,098	21,665	10,810	13,505
Total - -	68,679	81,249	89,891	68,058	54,667

Exports of Sugar and Molasses from New Orleans for the year, (up the river excepted,) from 1st of September, 1849, to 31st of August, 1850.

Whither exported.	Sugar. Hhds.	Sugar. Bbls.	Molasses. Hhds.	Molasses. Bbls.
New York	42,523	2,229	2,078	42,776
Philadelphia	28,344	3,074	....	14,636
Charleston, South Carolina	5,014	683	....	10,531
Savannah	1,981	300	82	4,279
Providence and Bristol, Rhode Island	....	....	247	37
Boston	3,929	961	....	2,792
Baltimore	8,101	2,225	....	13,432
Norfolk, Richmond and Petersburg, Va.	6,600	882	30	6,134
Alexandria, District of Columbia	649	....	....	600
Mobile	2,876	1,526	....	8,850
Apalachiola and Pensacola	1,830	460	....	5,370
Other ports	873	1,602	305	3,237
Total - - - -	92,720	13,948	2,742	112,674

Exports of flour, pork, bacon, lard, beef, lead, whisky and corn from New Orleans, for the year, from 1st September, 1849, to 31st August, 1850.

Ports.	Flour, bbls.	Pork, bbls.	Bacon, hhds.	Lard, kegs.	Beef, bbls.	Lead, pigs.	Whisky, bbls.	Corn, sacks.
New York - -	8,625	202,708	28,031	372,451	8,464	259,536	1,104	9,827
Boston - - - -	65,694	157,380	8,142	306,689	17,003	92,067	698	41,558
Philadelphia - -	500	17,183	5,256	86,087	....	56,766	171	....
Baltimore - - -	202	34,036	4,895	72,290	3,391	....	1,279	....
Charlesron - -	2,034	4,059	4,246	2,093	229	162	8,057	1,561
Other Coastwise ports -	107,264	20,395	10,423	24,975	5,151	164	33,239	65,023
Cuba - - -	366	1,260	1,259	108,534	10	....	....	....
Other foreign ports -	27,065	33,213	2,577	586,732	21,654	1,451	306	338,648
Total - -	211,750	470,237	64,929	1,554,849	55,842	410,146	44,904	456,057

In the above, the exports to Mobile, &c., via the Pontchartrain railroad, and new canal, are included.

Monthly arrivals of ships, barks, brigs, schooners, and steamboats for two years, from 1st September to 31st August.

Months.	1849–50. Ships	Barks	Brigs	Schooners	Steamships	Total	Steamboats	1848–9. Ships	Barks	Brigs	Schooners	Steamships	Total	Steamboats
September	27	20	10	29	12	99	109	27	9	11	32	7	86	164
October	96	26	22	29	15	188	184	45	23	24	33	13	138	215
November	198	43	41	52	14	258	243	96	47	41	37	14	238	288
December	60	50	48	54	9	223	334	87	57	60	45	10	259	381
January	78	56	46	83	13	276	352	71	62	47	50	11	241	325
February	52	22	40	67	11	202	311	101	62	39	39	10	251	313
March	66	42	44	79	13	244	318	70	61	53	54	15	253	321
April	76	31	45	82	11	345	238	132	56	34	53	11	286	257
May	22	20	23	57	13	135	239	74	33	19	43	15	183	191
June	38	12	19	51	10	130	171	40	22	25	31	8	126	153
July	10	14	17	40	13	94	152	12	19	10	21	12	74	135
August	21	14	7	43	13	98	133	2	12	9	18	10	51	130
Total -		654	363	362	666	147	2,192	2,734	757	462	375	455	2,186	2,873

Prices of flour, corn, sugar, molasses, middling to fair cotton, at New Orleans on the 1st of each month from September, 1849, to August, 1850.

	Cotton. cents.	Sugar. cents.	Molasses. cents.	Flour. dollars.	Corn. cents.
September	9 1-2 a 11 1-2	3 a 5 1-4	10 a 20	4 1-2 a 5 3-4	35 a 45
October	9 3-4 a 12	4 a 6 1-4	10 a 20	5 a 5 5-8	42 a 48
November	9 7-8 a 11	3 a 6	24 a 24 1-2	4 3-4 a 5 1-2	50 a 55
December	10 1-8 a 11 1-4	3 a 6	20 1-2 a 30 3-4	5 a 5 1-2	46 a 52
January	10 1-4 a 11 1-2	2 1-2 a 5	17 a 19 1-2	5 a 5 5-8	... a 47
February	11 1-8 a 12 3-4	2 1-2 a 5	15 a 20 1-4	5 1-8 a 5 3-4	45 a 50
March	10 7-8 a 12 1-4	2 1-2 a 5	12 a 21 1-2	5 1-5 a 6	50 a 57
April	10 5-8 a 12	2 1-2 a 5	10 a 21	5 5-8 a 6 3-4	50 a 56
May	11 5-8 a 13	2 1-2 a 5	10 a 23	5 3-8 a 6 3-4	76 a 83
June	11 1-2 a 13 1-4	3 3-4 a 5 3-4	21 a 27	6 3 3 a 7 7-8	64 a 70
July	11 3-4 a 13 1-2	4 a 6	25 a 33	5 1-2 a 7 1-4	75 a 85
August	12 1-4 a 13 1-2	4 1-4 a 6 3-4	20 a 33	4 a 6 3-4	75 a 85

Comparative prices of mess and prime pork, on 1st of each month for two years.

	1849-50.		1848-9.	
	Mess.	Prime.	Mess.	Prime.
September	$9 1-4 a 9 1-2	$8 1-4 a $8 3-8	$11 1-4 a $11 1-2	$9 a ..
October	9 3-4 a 10	8 3-8 a 6 1-2	12 1-4 a ...	10 1-4 a ..
November	9 3-8 a 9 1-2	8 1-4 a 8 1-2	10 1-4 a 10 1-2	9 3-4 a $10
December	10 1-2 a 11	8 1-2 a 8 3-4	10 a 10 1-2	9 a 9 1-2
January	9 1-4 a 9 1-2	8 a ...	11 a 11 1-4	9 1-2 a 9 5-8
February	9 1-2 a 10	7 3-8 a 7 5-8	10 3-4 a 11 1-4	9 7-8 a 10
March	9 3-8 a 9 5-8	7 3-8 a 7 1-2	10 1-4 a 10 3-8	9 a 9 1-2
April	9 1-2 a 9 3-4	7 3-8 a 7 1-2	10 a 10 1 8	9 a ...
May	9 3-4 a 10	7 3-4 a 8	9 5-8 a 9 7-8	8 3-4 a ...
June	10 1-4 a 10 1-2	8 1-4 a 8 1-2	9 3-8 a 9 1-2	8 1-8 a 8 1-4
July	... a 12	9 1-2 a ..	10 1-2 a 10 3-4	8 1-2 a 8 3-4
August	11 1-2 a 11 3-4	... a 9 3-4	9 3-4 a 10 1-4	8 1-8 a 8 1-4

From the Commercial Review.

ANNUAL COTTON STATEMENT — CROP, 1849-50.

Exports to Foreign Ports from United States, from September 1, 1849, to August 31, 1850.

From	To Great Britain.	To France.	To North of Europe.	Other Foreign Ports.	Total.
New Orleans.....bales	397,189	117,413	25,196	84,450	624,748
Mobile	162,219	39,968	.....	11,977	214,164
Florida	39,594	....	7,165	2,175	48,934
Texas	513	....	....	....	513
Georgia	137,185	14,110	1,848	....	153,143
South Carolina	165,623	33,082	8,944	9,922	227,571
North Carolina	....	....	....	....	....
Virginia	....	....	133	50	183
Baltimore	202	....	230	....	432
Philadelphia	3,454	....	....	599	4,053
New York	200,113	85,054	27,726	1,907	314,800
Boston	670	....	914	21	16,05
Grand total	1,106,771	289,627	72,156	121,601	1,590,155
Total last year	1,537,901	368,259	165,458	156,226	2,227,844
Decrease	431,130	78,632	93,302	34,625	637,689

.GROWTH.

Crop of 1823—4.....bales	509,158	1832—3,....bales	1,070,438	1841—2,.. .bales	1,683,574
1824—5,	569,249	1833—4,	1,205,394	1842—3,	2,378,875
1825—6,	720,027	1834—5,	1,254,328	1843—4,	2,030,409
1826—7,	957,281	1835—6,	1,360,725	1844—5,	2,394,503
1827—8,	720,593	1836—7,	1,422,930	1845—6,	2,100,537
1828—9,	857,744	1837—8,	1,801,497	1846—7,	1,778,651
1829—30,	976,845	1838—9,	1,360,432	1847—8,	2,347,624
1839—1,	1,038,848	1839—40,	2,177,835	1848—9,	2,728,596
1831—2,	987,477	1840—1,	1,634,745	1849—50,	2,090,706

CONSUMPTION.

Total crop of the United States as above stated			bales 2,096,700
Add			
Stocks on hand at the commencement of the year, 1st September, 1849:			
In the southern ports		72,468	
In the northern ports		82,285	
			154,753
Makes a supply of			2,251,453
Deduct therefrom:			
The export to foreign ports	1,590,155		
Less foreign included	1,341		
		1,588,614	
Stocks on hand, 1st September, 1850:			
In the southern ports	91,754		
In the northern ports	76,176		
		167 930	
Burnt at New York and Charleston		6,946	
			1,763,690
Taken for home use			bales 487,769

QUANTITY CONSUMED BY AND IN THE HANDS OF HOME MANUFACTURES.

1849 50	bales 487,769	1841—2,	bales 267,850	1833—4	bales 196,413
1848—9	518 039	1840—1,	297.288	1832—3	194.412
1847—8	531.772	1839—40	295,193	1831—5	173.800
1846—7	427;967	1838—9,	276,018	1830—1	182,142
1845—6	422.597	1837—8,	246,063	1829 30	126,512
1844—5	389 006	1836—7,	222.540	1828—9	118,853
1843—4	346,744	1835—6,	236,733	1827—8	120,593
1842—3	325,129	1834—5,	216,888	1826—7	149,516

In our last annual statement, the estimate of cotton taken for consumption for the year ending September 1, 1849, in the States south and west of Virginia, was probably over-estimated; the following for the past year is believed to be very nearly correct. The number of mills has increased since that time and are still increasing, but the quantity consumed as far as we can learn, is owing to high prices, &c., less than the year previous. The following estimate is from a judicious and careful observer at the south, of the quantity so consumed and not included in the receipts. Thus, in—

	Mills.	Spindles.	Quantity consumed.
North Carolina	30	.....	20,000 bales.
South Carolina	16	36,500	15,000 "
Georgia	36	51 150	27,000 "
Alabama	11	16.960	6.000 "
Tennessee	30	36.000	12,000 "
On the Ohio, &c.	30	102,220	27,500 "
Total to September 1, 1850			107,500 bales.
" " 1840			110.000 "
" " 1848			75,000 "

To which should be added the stocks in the interior towns, the quantity burnt in the interior, and that lost on its way to market; these, added to the crop as given above, received at the shipping ports, will show very nearly the amount raised in the United States the past season; say, in round numbers, 2,212,000 bales.

The quantity of new cotton received at the shipping ports up to the 1st instant, amounted to about 955 bales, against about 575 bales last year.

The shipments given in this statement from Texas, are those by SEA only; a considerable portion of the crop of that state finds its way to market via Red River, and is included in the receipts at New Orleans.[New York Shipping List:

JOURNAL OF MANUFACTURES AND IMPROVEMENTS.

PROGRESS OF MANUFACTURES IN ST. LOUIS—UNION FOUNDRY.

Whilst on a visit to the southern part of the city, a few days ago, we called at the Union Foundry, on Third street, between Hazel and Lombard; and finding the operations of the establishment on a scale far more extensive than we imagined them to be, we solicited the proprietors, Messrs. PALM & ROBERTSON, to furnish us with such facts, touching their works, as would enable our readers to appreciate their extent and importance to the community.

The machinery is propelled by a high pressure steam engine, of about 24 horse power; and the operations of the establishment embrace the manufacture of almost every article that is usually made at a foundry and machine shop. Among the leading articles produced here are steam engines; railroad car wheels, and axles; hydraulic and screw presses; store fronts and columns; tools of various descriptions; waterpipes &c., &c.

The daily consumption of raw material is, of pig metal, from 16,000 to 18,000 lb.; of stone coal, about 70 bushels; of anthracite coal, about 1200 lbs.; of Pittsburgh coal, about 1,200 lbs. Besides these articles, there is consumed a large quantity of bar iron, steel, brass, copper, charcoal, oak wood &c., &c.

The number of hands employed is between 70 and 80; at wages ranging from $2 per week for the youngest apprentice, to fifteen dollars per week for a foreman.

Much the larger portion of the pig metal consumed at this establishment, is from the Pilot Knob Iron Works, Mo. This looks well; but we fear that many years will elapse before Missouri will supply the demand for iron in this market.

The manufacture of iron in all its varied forms, may now be regarded as the most extensive branch of industry in our city; and we should be under obligations to all those engaged in this pursuit if they would furnish us with such facts as would enable us to make up a complete account of it for the January number of the "Western Journrl."

INVENTION IN THE SUGAR MANUFACTURE

The "Sun" gives a description of a new invention for graining sugar, which has been purchased by Messrs. Howland & Woolsey, (the latter a well-known sugar manufacturer,) and is thus described:

"The sugar is taken in its black, dirty state, just as it comes from the planters' boilers, thrown into the machine, and in a twinkling the refuse stuff is separated from the mass, leaving the clean, white, sparkling sugar alone by itself, ready for family use. In *two minutes* the refining is completed, which, by the usual mode, required three weeks of time, the employment of many hands and the consumption of much fuel. In this new process no heat is required,

The invention is one of remarkable ingenuity and certain in its operations. The sugar to be refined is mixed with molasses until it is of a semi-fluid consistency. The mass is then placed within a revolving sieve, the wires of which are so fine as to retain the sugar but permitting the exit of the liquid parts. By means of steam power the tremendous velocity of two thousand revolutions in a minute is given to the sieve, and so great is the centrifugal force thus applied to the mixture within, that the molasses and impurities instantly fly off, leaving the sugar behind, purified, white, and, what seems singular, perfectly dry. The article thus produced is what is generally known as refined brown sugar. It resembles powdered loaf sugar, and needs but one more operation to convert it into the loaf. The entire machine occupies but little more space than a good-sized washtub."

The first of these machines ever produced on a practical scale in this country, has recently been constructed at the large machine works of our old friend Mr. G. B. Hartson, Nos. 58 & 60 Vesey street; it is of a capacity to refine 200 lbs. of sugar in two minutes.

The idea never would have struck us, that, by giving sugar syrup a rapid centrifugal motion, the moisture alone would be thrown off, and the grain crystalised and refined. We do not yet see how it can be purified by this operation. A machine for drying and depurating sugar by steam and centrifugal motion, is illustrated and described in No. 41 Vol. 5, Scientific American. Centrifugal motion and its virtues were first displayed in a revolving machine for drying cloth, (one was patented by Mr. Nelson Chaffee, of Connecticut, two years ago.) it has been applied to moulding metal pipe, and now it is applied to the manufacture of sugar.

ATLANTIC AND MISSISSIPPI RAILROAD.

We are informed by Wm. S. Wait, Esq., president of this company, that a survey of the route, commencing at the eastern terminus of the Terre Haute and Richmond railroad, on the Indiana State line, and terminating at Illinois-town, opposite to this city, will be completed in a few days, under the direction of W. H. Morrison, chief engineer. Mr. Wait has accompanied the engineer on the route, and has obtained the right of way from a great number of those through whose land the road has been located. He states that the people residing near the route, manifest the most lively interest in the work; and he appears quite sanguine that the legislature of Illinois will sanction and confirm the location of the road as made by the company.

Looking forward to the completion of this great enterprise, as we feel authorised to do, it is natural to enquire in what way and to what extent it will affect the city of St. Louis?—That the termination of this and other important lines of improvement opposite this city, will tend to strengthen and establish this as the great commercial point in the valley of the Mississippi, there can be little doubt; but, that it will also be the means of transferring a large portion of the business to the eastern bank of the Mississippi, is, in our opinion, quite certain.

Produce brought on the railroad, except that designed for consumption here, will not cross the river. It will be received, stored, and forwarded from Illinois-town as cheap as from St. Louis; and we cannot suppose that the owners will pay the charges of transporting their commodities across the river, when nothing could be gained by it. The advantages of a location on the east bank of the river, cannot escape the accute vision of the merchant; and, he will be found there ready to receive and forward the produce of the country, by the time the road is in a condition to bring it in. Nor is there any reason that his business should be limited by that of the railroad; for, stationed on one side of the St. Louis harbor, he comes in fair competition with the St. Louis merchant for the produce arriving on steamboats. Nay, more—when we reflect that a much larger amount of produce will arrive at Illinois-town than at St. Louis, by land carriage, and that rents, and perhaps taxes will be lower there than here, it must be admitted that the mercantile advantages are in favor of that place. Again, St. Louis must rely chiefly on the Illinois coal mines for fuel; and the low price of this article on the east side of the river, will operate as a strong inducement to the location there of all manufacturing establishments which require great mo-

tive power. Indeed the price of ground is now so high on the Missouri side, that manufacturers cannot afford to build in situations convenient to business; and this cause alone will, in time, transfer the larger establishments to the Illinois shore.

In view of these facts, we are persuaded that the construction of the Atlantic and Mississippi railroad will materially affect the value of real estate in St. Louis; it may not depreciate its present value, but it will prevent prices from advancing as they otherwise would.

We know that the opinion prevails that the depressed situation of the American bottom, will forever prevent the building of a city on it; and this would be the case under almost any other state of facts, than those which exist. Nearly every large city with whose history we are acquainted, has extended its limits by reclaiming land as difficult of improvement as the American bottom; and, indeed, the improvement of a considerable part of the city of St. Louis, will have cost as much when completed, as will an equal arrea in Illinois-town. Less than one-fifth of the present value of ground fronting on the St. Louis levee, will raise a levee on the opposite side of the river, above high water; and we are persuaded that before the lapse of twenty-five years, there will be little difference in the value of real estate on the east and west sides of the St. Louis harbor. And should the Atlantic and Mississippi railroad terminate at Illinois-town, and a railroad connection be made between that point and the southern States, we venture to predict that it will be, in time, the largest city on the eastern bank of the Mississippi.

GRAPE GROWING IN ILLINOIS.

We are truly gratified to learn that our neighbors in Illinois are beginning to turn their attention to the cultivation of grapes and the production of wine. This branch of industry has been too long neglected in the valley of the Mississippi; but the success that has attended the experiments of our German citizens, wherever they have planted the vine in this region, is calculated to extend its cultivation until it shall be classed amongst our leading staples.

No reasonable man can desire a more profitable pursuit than grape growing, and surely none could be more pleasing and agreeable to one of intelligence and taste.

Our correspondent, Mr. Hilgard, is entitled to the gratitude

of the community in which he resides, for his labors in establishing the fact, that grape growing may be relied on as a certain and profitable employment.

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BELLEVILLE, Ill., Nov. 10, 1850.

Messrs. Tarver & Risk:

Gentlemen:—You invited me several times to make you some communications about the success or failure of the attempts made by myself and others, of raising wine in the neighborhood of Belleville, Illinois. I heretofore declined doing so for want of sufficient experience in this new and rather delicate matter; but I am able now to give you some facts which may deserve notice.

One of these facts, and indeed an important one, is, that all those species and sorts of grapes which are generally raised in Germany, and especially on the shores of the Rhine, do not grow well here, and absolutely fail from year to year (whatever may be the prevailing character of the weather and temperature), by rotting instead of ripening. This fact is confirmed by more than ten years experience, and has been observed as well by myself as by many other persons, and at various places. It seems evident that our climate and soil do not suit those species of grapes—and there is nothing surprising in this, since in Germany itself, different species of grapes are raised in different localities, and entrely fail in others very little distant.

Seeing this, I began about four years ago, to plant the *Catawba* vine, on a fine elevated ground, or little hill, with a southern slope. The vines, as usual, began to bear in the third year, and in 1849, I made two barrels and a half of very good wine, from between 400—500 vines. The year 1849 being a very bad one for grapes, and indeed the worst in these last ten years, I was surprised at this result, and still more at the quality of the wine, which was judged by all connoisseurs who tried it, to be equal if not superior to the better sorts of Rhenish wines.

Encouraged by this success, I bestowed particular care upon the culture of the vine, and I made this year, (1850), *twenty barrels* of wine from about 2000 vines, more or less, though some of the grapes, say one-sixth, had perished by rotting in the month of August. The grapes ripened perfectly well; they were, indeed, delicious—and the wine they gave is far superior to that of last year. It has a dark yellow colour, like Madeira—and is sweet, strong, and of a fine and excellent flavour, though still in an imperfect state---the fermentation being hardly over. $1 25 is readily offered per gallon, even now; but I do not intend to sell it for less than $1 50.

I must add that the grapes have failed this year in most other places, as I see in the papers, and even in my neighborhood, the same result has taken place in some instances. But my judgment and experience lead me to think that, besides the difference of situation and soil, there has been in those places, some material fault in the management of the river, especially in taking too many leaves and young limbs from the vines, which is usual in some parts of Germany, and may perhaps be well in a land where the sun has by far less power than in our country, but will not do at all under the 38th degree of latitude. Whoever has a sound notion of the life and organism of plants, is well aware how important a part the leaves of a plant or tree have to play in its growth and the ripening of its fruit, being, as it were, its stomach and lungs. And besides, experience shows that in this climate the older leaves of the vine are much liable to be blighted or scorched in the hottest part of summer, so that to take away the young leaves is very often to deprive the vine entirely of all its leaves, and make it impossible for the fruit to ripen well. My nephew, Mr. Theodore Hilgard, Jr., who lives 5 miles east of Belleville, and who manages his vine-yard on the same principles as I do, has obtained a result about equal to mine, in proportion to the number of his vines.

In conclusion, I dare say, that the question whether the heighborhood of Belleville, (and especially West-Belleville, where my vine-yard is situated) can raise a good, nay an excellent wine, is no longer a doubtful one, and is decided in the affirmative. My "twenty barrels" have awakened great zeal and enthusiasm for the culture of the vine amongst all those who know something of it, and in a few years, it may be supposed, hundreds of acres will be devoted to that culture in my neighborhood.

Yours most respectfully,
THEODORE HILGARD, Sen.

SPIRIT CULTURE.

"'Tis a consummation devoutly to be wish'd," to bring out in fair proportions the dormant energies, and develop harmoniously the admirable forms that lie concealed in every germ in nature; whether those germs are of the grain of the earth, or of the thoughts of the mind, or of the feelings of the heart.

Agriculture—that great source whence the physical wealth of a country is derived—Agriculture, is receiving devoted attention throughout our land, as well by theoretical chemists, by scientific analyzers of those elements which aid the seed in

bringing about the best and most abundant harvests, as also by the practical tillers of the earth.

The true wisdom of a country stimulates agriculture. The "dry diggings" from gold mines give the country a pecuniary fever. The fresh fruits of the soil restore it to pecuniary health; and the healthy condition of the wealth of a country must be sustained mainly by the fruits of agriculture.

Mental Culture has attracted the attention of philosophers and schoolmasters in the intellectual fields; and by laboring in these, they have brought about wonderful results in the world. In abstract thought, in metaphysical and mathematical sciences, great discoveries have been made; but mental culture has produced its most astonishing results in and upon practical life, by means of the analysis of elements above the earth—elements moving in the air, and binding them to the service of men—the ignorant as well as the learned—so that they can rule them with a rod of iron.

Steam, that was seen to evaporate as a good-for-nothing element from boiling water, and *Lightning*, that was seen to waste itself away in the clouds—*Steam* and *Lightning* are discovered to be the most valuable servants of men, dispatching their business for them with a power and speed eclipsing calculation.

These results are offsprings of mental culture.

Wit, that distinguishing, that discerning sense of man, by which he is enabled to gain advantages over his fellow men as well as over circumstances—wit, also, becomes more powerful and brilliant by mental culture.

Yet, for all this, we often feel it to be true of a man shining by brilliant mental endowments

> "That all his wit, his most distinguished part,
> But makes us grieve he wan's an honest heart."

We know that, although physical and mental wealth should be earnestly sought for, and highly prized, yet, if the heart is impoverished — if the breast is unrelieved by any oasis of friendly feeling, refreshment cannot be obtained either by mind or by money. It is not in the nature of a desert to give man physical enjoyment, although it might abound with gold and diamonds; and it is not in the nature of a barren heart to give satisfaction to the soul, however the possessor may be endowed with mental and extraneous riches. He whose soul is in his gold, is no better off than Shakspeare's fop, whose soul was in his clothes. Deprive the one of his money, and the other of his finery, and each is a miserable wretch.

Even the man whose soul is in his mind alone — who, by the plans he devises, only coldly calculates how he may obtain advantages for himself, never can experience the satisfaction

which is enjoyed, while it flows from him whose soul is in his heart, desiring and striving to bestow advantages on others.

Here, then, we arrive at the point aimed at:—that latent principle — disinterested and most interesting — that inborn or ingrafted (immaterial which) pure feeling of the heart.

By bringing this principle — this feeling — out of its cell, instead of allowing it to rot within it—by cultivating instead of neglecting it, it would afford resources by far more available than any of a mental or of a pecuniary character.

In this age of progress, practical progress, ways and means, are every day devised; *projects* set in operation, and plans and systems established, to discover more deeply and develop more fully the resources of the physical and mental worlds. But why is that vast world in the heart of man — the moral world — left so desolate? why are the fountains of pure feeling that flow underneath the surface of the moral wilderness, allowed to remain sealed? why are they not opened and permitted to gush forth — to flow in refreshing streams of cordiality, fertilizing the dry and rocky hearts of men?

As the wilderness, by cultivation, may be made to blossom like the rose, and produce abundant harvests to supply physical wants; even so, the wild and hard hearts of men, by cultivation, may be made to yield, not only flowers of affection, but also, harvests of emotions, and fruits of the spirit, to supply the highest wants of humanity.

The common wants of humanity are easily defined. Food, clothing, locomotion, a place to lay one's head; and, to get and provide for the same round of wants for his progeny.

The higher wants are more difficult to determine. They are of a mental character. Knowledge of the world and its different kingdoms —mineral, vegetable and animal — as also, of the kingdoms above the world. Power to analyse the laws by which they are governed — to resolve them into elemental principles, and by new scientific combinations of the elements, to obtain superior control over them, so as to use them for the purpose of gaining more easily and rapidly the common wants; and that the time thus gained may be spent in progressing in the same and kindred intellectual enjoyment and exercise.

The highest wants are still more undefinable. Their origin is enveloped in the mysterious abode of feeling; and that home of feeling is the heart. From thence proceeds an earnest longing for freeness from illusions — the tantalizing vanities which bear the semblance of the realities around us — the superfluous food, dress, houses, &c., which can never fill the aching void in the breast. A panting thirst for refreshment from a fountain of living water, welling up continually from the soul. A raging hunger for that satisfying food which grows on the tree of life in the garden of the moral world.

This earnest longing for freeness from illusions — this panting thirst for perennial refreshment — this raging hunger for constant satisfaction — these are some of the highest wants of humanity.

To supply these wants the clergy preach, and philosophers write, but too often, rigid rules to regulate external conduct. Too often they make clean the outside of the cup and platter, as if internal purity were thus secured, or else not worth securing. But these wants cannot be supplied by external appliances. They can only be supplied by each man for himself, laboring indefatigably at his own heart, in eradicating the weeds and briars of error and vice, and planting and cultivating in their places the seeds of truth and goodness, with a just consciousness of the invisible influences that surround and descend upon him from heaven, ever ready to act upon, and develop the seed sown. How, it may be asked, can an unlearned man be expected to distinguish truth from error — vice from goodness — when even the learned disagree, and ecclesiastics quarrel about their distinctions? but does not the unlearned as well as the learned, know when he is selfish? and because he is ignorant of knowledge, is he therefore, less capable of disinterested feeling? These questions contain axiomatic truths, which the common sense of mankind cannot misunderstand.

Thought and feeling are born in man. Thought tends to selfishness; feeling to disinterestedness. Thought bends external nature to our own service; feeling flows from our internal nature in streams of beneficence, for the benefit of others. Man cultivates thought, and stifles feeling. He studies to be selfish, and brings himself to believe that disinterestedness is folly. And therefore it is, that when the hallowed days of childhood are past — those days when feeling equalled thought — when others were loved as much as self — therefore it is, that innocence is then lost. The harmonious relation between thought and feeling, is disturbed. Selfishness gets the better of liberality; and so long as it retains its advantage, it gnaws on the vitals of the wretch who permits it, like the vulture on those of the rock-bound Prometheus. The miser in wealth, and the bigot in opinion, are both illustrations of the principle of selfishness, and of the fruits of wretchedness which it produces. The miser may be as rich as Midas, whose lot it was, as his prayers to his gods had been, to turn every thing he touched into gold, and yet, he may realise what others believe to be a delusion — that he must die with the raving agonies of want. The miser finds that he prizes money more than food; that his money-making principle is absorbing his principle of vitality. And thus, he really feels the action of the law of acquisition, preying upon the laws of his life; preventing him

from spending money enough to satisfy his hunger; and tormenting him, not only with apprehensions of bodily misery, but with agonies more real than the mere death of the body which he starves; for he feels awakened within him a consciousness of the approaching death of the soul — that second death—the horrors of which are inconceivably more agonizing than any physical torment.

The bigot in mind leads a life analagous to that of the miser in money. Selfishness is the principle — the rule of conduct — by which both are governed, each in his own sphere. By bigot, is meant, not merely a man who is selfish in theology, like a Jewish scribe, Pharisee, or hypocrite, who, filling his mind with all knowledge on the subject, is ready to die for external formulas, or the letter which killeth, and ready to put to death one who kindly differs from him, rather than awaken within himself the spirit which giveth life; but by bigot is meant the self-opinionated person in philosophy, physical, mental and moral; as also in politics: one who binds himself in old forms, and hoarding up within his head all the learning of the world, thinks it has arrived at the culminating point of humanity; that any further progress would necessarily be downward, and that any reformation would eventuate in utter dissolution. To such men be it said, that as there are earthquakes and volcanoes in the physical world, so must there be mind-quakes and explosions in the mental world. Old hypotheses, theories, ideas and governments, cannot withstand the unseen power that rules supremely over and around them. If men will remain selfish, contracted, and opposed to all liberal expansions of the laws of humanity, they and theirs must become exploded; for the spirit of the age is onward and upward, and will have its way.

Hints merely, or general suggestions and sketches only, may here be expected to be given, of the ways and means of discovering and developing within one's self, and, in the age in which one lives, the spirit nature, which exercises that superhuman influence on matter and on mind.

As Locke said in his once applauded but now exploded essays on the Human Understanding that, for evidence to sustain the truth of the principles he asserted, he relied on the approving consciousness of every reader; so be it said in this essay, that for evidence to sustain the truth of the principles here asserted, reliance is placed on the approving consciousness of every reader. The intuition of humanity may be the test.

The germ of feeling, by the common acknowledgment of mankind, is placed in the heart; and to develop this feeling man must first become like a little child. He must renounce the inordinate passion for money — the root of all evil. He

must renounce the inordinate ambition for a ruling intellect.—

> "By that sin fell the Angels, how can Man then,
> The image of his Maker, hope to win by it?"

Sense, proud, arrogant, affected common sense, that turns up its nose like a *parvenu*, must be humiliated to the true, the genuine common sense—must be subdued to sensibility, and affection must be allowed to have fair play, to grow and spread its tendrils luxuriantly, and not be choked to death by the tares of pride.

An affectionate disposition is the first element requisite to the cultivation of the spirit nature. This affectionate disposition must be entertained in its freest, as well as minutest, and most comprehensive meaning. Its starting point is from an emotion of kindness, of which some men are occasionally, and every child is certainly conscious. This emotion of kindness, which selfishness endeavors continually to seal up in the heart, watching every effort it makes to free itself from its prison, with the eye of a demon—this genial emotion of kindness, must be released from the tyranny of selfishness, and allowed to move with freeness, and not only to touch tenderly and earnestly the hearts of others, but also, all animate and inanimate objects, in the vast extent of nature; enveloping them with a hallowed charm, and then returning to the source whence it emanated; it should be allowed to move as freely through every nerve and fibre of the corporeal and mental frame —through the inner nature of its entertainer, as it did through outer nature, so that the tender and earnest action of this emotion within his triune person, physical, mental and moral, may produce a transport, analagous to, but free from all the surfeiting alloy of the most voluptuous rapture.

Such freeness must be given to that tone of feeling, which on account of its simplicity and the slavery in which it is held, is oftentimes scorningly called an "affectionate disposition." This affectionate disposition must first be cultivated, and be made to act as freely and as wastefully, as the "wind that bloweth where it listeth; for so is every one that is born of the spirit."

A respectful reverence is another essential element of the spirit nature. The term "respectful reverence" has been generally used to express the particular regard due to the clergy,—and this understanding of the term is highly proper;—but the feeling, the emotion of respectful reverence, should not be confined in such a narrow sphere. The Supreme Being exists in other spheres as well as in that, and this respectful reverence should be entertained towards every person, and every thing he has made.

First, one should respect — revere himself — not only that he may be respected and revered by others, but because he

himself is an offspring of the Deity—as some also of the Greek poets have said. Every impulse within him, man should respect with an affectionate reverence, and gently sway it in harmony with the will of his Father.

Second, a decent respect for the opinions of mankind, as intimated in the declaration of independence of the U. States of America, should always characterize one's conduct towards others. This respect towards others is essential to our independence of them, but in the entertainment of it, self-respect is always to be maintained in harmonious union.

Third, a respectful reverence should be felt towards all animate and inanimate nature—the sun, the moon, the stars, the winds, the waves, the woods, and the "cattle on a thousand hills," for it is by means of this feeling of reverence for inferior nature, that one

> "Finds tongues in trees, books in the running brooks,
> Sermons in stones, and good in every thing."

With such principles one may walk abroad upon the surface of this earth, in harmony with the Creator and the created, feeling in his spirit the strength of the lion—the happiness of the lark—the freedom of the wind, and the warmth and brightness of the sun in the heavens—and to him "the world thenceforth becomes a temple, and life itself one continued act of adoration."

Many other elements might be mentioned producing their influence on the development of the spirit nature. Still the question will be asked by thousands, what can we do to obtain that affectionate disposition, this respectful reverence, and those other elements alluded to? The answer is, watch against selfishness, and pray for freeness of spirit. For selfishness is the personification of Evil—the Tempter—the Devil himself. But He to whom the prayer for freeness should be made, has power to resist the Tempter, to overcome him, and set the prisoner free from his tyranny, and when he sets him free, then indeed is he free in spirit.

The elemental principles of humanity are still the same as they were at the commencement of that era of the world, from which we now date our years. In the years of our Lord's personal existence in the Holy Land, the ecclesiastical ideas of those who were profoundly learned in the law of Divinity, were wonderfully compressed. They were all locked up in musty documents. The scribes and doctors of divinity were then more narrow-minded even than the writers and the doctors now. Their ideas were all outsided—white sepulchered. Their ideas had no spirit in them; they were the concentration of the *physique*. Forms and ceremonies, and rules and regulations binding and shaping external conduct—like the

practice of Procrustes who made all his subjects fit a certain bed, cutting off the bodies of those who were too long, and stretching out the limbs of those who were too short—such were the orders of the day. Even their Prince of Glory, for whom they were then looking every day with anxious expectations, they had shaped him too. They had determined he must be fashioned after the style of Cyrus and Alexander, and far more glorious outwardly than Cæsar. But when He came, and the high priests and their learned counsellors saw Him, and saw the superhuman and unanswerable evidence of His just title to the Prince of Glory, in the the selfish pride of their narrow minds, and with hearts like flints, they said:—He hath a devil, and the only reason he can cast one out from others, is, because he is an emanation from Beelzebub, the very prince of that tribe.

One only, of all the masters of Israel, seemed to be inclined to be honest-hearted, and even he, was almost ashamed of being so. He is mentioned as the same who came by *night* to his true master; and although from the overwhelming evidence adduced, he was compelled to acknowledge him to be so, yet, he manifested an utter ignorance in regard to the spirit-nature of humanity; for, when he was told he must be born again, and of the spirit—washed as with water, from his dust-nature—still, the one idea, of the *physique* order, encased the heart of the humble and liberal Nicodemus; and this idea struck itself out, as he enquired, with his carnal notions:—"How can a man be born, when he is old?" But as he was answered in a way most likely to reach his heart, by remarks delineating the spirit-nature, by means of sketches of ideas, tracing analogies between it and the physical order of flesh and of wind; and as he again enquired:—"How can these things be?" and was finally answered that a new light had come into the world—a light far more beautiful and glorious, than the mere physical light of the sun of day, or even the brilliant mental light of the polished and witty Greeks—that it was a superhuman and inextinguishable moral light from the Kingdom of Heaven, which came without observation, and shone from the heart of its recipient; it may be that Nicodemus was an exception, among the ecclesiastical characters of his time, that he opened his heart and received within it, this light of the Spirit; although, little is heard of his disposition to come out openly and let it shine; but the indications are, that even he, rather preferred to "hide it under a bushel."

The other old masters of Israel, with their proud and selfish intellects, kept their hearts enclosed in their old forms, and shut against the Spirit; so that, as the New Form, which was presented before them, and which was filled with the Spirit, was not fashioned according to their form, they said: "Away

with him"; and worse than Procrustes, they stretched him, and nailed Him; hung Him, and pierced Him with thorns and with spears, as if actuated with concentrated inhumanity, on a frame which was called the accursed cross. But even death could not gain a victory over the Spirit: for which survived, the old form, or the new? When the words, "It is finished," were uttered on that cross, and the earth quaked, as it echoed the voice of the Deity, then, also, was the old form exploded; and, as a symbol of that fact, the vail of the Temple, itself, that hallowed sanctuary of the old form, was rent in twain, from the top to the bottom.

How, now, stand the scales of destiny in relation to the Jews, with their stubborn physical ideas, haughty, stiff-necked intellect; and the Christians, with their humble, graceful, cordial, feelings? The Jews are cast down and scattered to the four winds of Heaven; despised of men. The Christians are exalted to the high places; and have drawn, and are now drawing, as by a magic charm, the various nations of the earth together, in harmony with one another. The heart of one nation is felt beating responsive to the heart of another, as the merchant responds to the call of a foreign land, sending the produce of his own, to supply the wants of others; and, as intelligence is transmitted, as called for, by electric wires, even so, the sympathetic cords of vitality of spirit, are conveying the feelings of unity and kindness over the whole earth.

He, then, from whose personal appearance on the earth, we date our years — *He* is the source of that flood of spirit and of glory, in which man is, and is still becoming more fully filled, and perfectly enveloped. This Christian spirit, the spirit which tends to the civilization — the amelioration — the progress of mankind — peace on earth and good will to men — this is the spirit to be cultivated. And, though some strong-headed men will not acknowledge it, but scoff at, and persecute it, and would annihilate it, if it were in their power, yet, the fact is, this is the true, the genuine spirit of the age. The advice given by Gamaliel to those stubborn men who struggled to crush it in its infancy, to refrain from their intentions, "lest haply, they be found even to fight against God"—this advice is still the true Christian practical counsel for every man to follow, in every thought and action. And now, when this spirit has grown up, these 1850 years, from its infancy to its present giant stature and strength, let him who seeks to crush it take care, lest it fall upon him and "grind him to powder."

Let the Puseyite, with his exclusive notions of baptismal regeneration, with his denial to men, of their right to exercise their own private judgments — with his efforts to imprison this spirit of the age in his shallow forms, and with the brittle figments of his brain, beware, lest it break them to pie-

ces. Let the Carlyleite, with his carping, fault-finding, annihilating intellect, take care, lest in pulling down the columns of the temple of the spirit of the age, he, himself, Sampson-like, be buried in the ruin he works. Let the abolitionists and nullifiers take care, lest they destroy themselves and their country, with their selfish, their headstrong, political policies. Let them listen to the tones of kind feeling, uttered from the lips of Clay and Webster, those master-spirits of this day; let them listen to their magic tones, that charm us into a still stronger love of Union, and which we daily hear echoing, and re-echoing, throughout the length and breadth of our land, inspiring, not only an affectionate disposition towards one another, even in the most distant portions, but also, inspiring a respectful reverence for the laws of the land, telling the servant to be obedient to his master — the citizen to respect the powers that be, and to every one, to "render unto Cæsar the things that are Cæsar's.

Let the lavish free-thinker, and the narrow-minded churchman, change their selfish ways; and, instead of laboring to maintain themselves by *finding fault* with others, let them stand, if they please, on their own ground, and maintain themselves, if they can, by virtue of their inherent integrity; but, in the name of the christian, the liberal spirit of the age, let their devotion to others, be that of *finding virtue* in them, and of developing every germ of virtue they can find, until, like the particle of leaven, it acts and works unseen, except in its effects, in, and through the whole mass, until, by degrees, every portion feels the elevating influence.

With this spirit, and a devotion to this Spirit Culture, the great mass — the body of the people of our country — may become grounded in the truth; and, not only educated in the different branches of wisdom, but also, so cultivated, as to produce, continually, superabundant fruits of goodness; and, thus while the farmer is induced to develop the resources from the soil — the manufacturer to work the raw material into fabrics—and the merchant to exchange these products and fabrics for the bodily comforts of man—at the same time, the blessings of civil and religious liberty may be developed from the head and the heart; wrought out into newly discovered improvements, and sent with missions of love, from the superabundance of our goodly heritage, to descend, like the dews of heaven, on foreign and darkened lands, that all the inhabitants of the earth, may be made to grow in, and enjoy the celestial comforts of the same civilizing and enlightening spirit.

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WESTERN INTEREST—MEMORIAL OF THE EVANSVILLE CONVENTION.

Except the adjustment, by Congress, of the agitating questions which grew out of the annexation of Texas and the acquisition of California, no event, of a public nature, within the current year, has afforded us a higher degree of satisfaction than the recent meeting of a Convention at Evansville, Indiana, for the purpose of taking into consideration the action of Congress, in reference to Western interests.

While political and religious meetings are being held in the north, for the purpose of denouncing a law of Congress, recommending disobedience to its mandates, and resistance to its execution; and, while southern men assemble in convention to deliberate on the question of secession, and declare what particular acts of Congress will authorise them to secede from the Union, it is refreshing to see Western men meeting in council to deliberate upon measures, which, though in some sense local, yet, look to the prosperity and happiness of every part of the nation. The memorial to Congress, adopted by the Evansville Convention, is conceived in the true spirit of the men of this Great Valley. Just in its demands, manly in tone, and breathing the sentiment of fraternal kindness towards every section of our common country, it will meet with a cordial response from every true western heart.

The memorial, and the resolutions which follow, shadow forth the policy which western statesmen are expected to pursue. They have been too long following the lead of Northern or Southern Politicians, as one or the other could succeed

in enlisting them under their banners; and, while in the service of others, as a natural consequence, they neglected the interest of their own constituents. But they should not be blamed, perhaps, on this account; for their constituents, confiding in the abundant resources of the country, and in the justice and liberality of the national Legislature, have required little at their hands beyond the loyalty due to their respective parties. But the people of the West are now beginning to look into their own affairs; and, in future, will require the undivided services of their representatives; and those who fail in duty, will be compelled to yield their places to more faithful agents.

Our entire concurrence in the spirit and matter of the following Memorial and Resolutions, has induced us to adopt them as a leading article, believing that nothing which we could write would be more acceptable or profitable to our patrons:

[From the Evansville "Journal."]

MEMORIAL

To the Senate and Representatives of the United States.

It was a remark of a distinguished Senator, in the Congress of the United States, on a recent remarkable occasion, not more beautiful and appropriate than prophetic and true. "That no one could look over the face of this country at the present moment, no one could see where the population was the most dense and growing, without being ready to admit, that ere long, *America would be in the Valley of the Mississippi.*"

To those who have been observers of the rapid increase in population and power, within the last thirty years, of this section of our Union, it could not fail to have been a matter of observation as to our constant growth in all the elements which constitute a great nation, as well as a subject of speculation, what must be the result of such a progression in thirty years to come. In the first period, from the territory bordering on the waters of the Ohio and Mississippi, four great States have been added to the Confederacy—Missouri, Arkansas, Iowa and Wisconsin. Within the period of twenty years, from 1820 to 1840, the increase of population in the Western States, including Michigan, was four million two hundred and fifty-seven thousand four hundred and forty-six. These States having in 1820, a population of one million eight hundred thousand seven hundred and eight. In 1840, five million fifty-eight thousand one hundred and fifty-four. From 1830 to 1840 the same States show an increase of two million forty-seven thou-

sand four hundred and seventy-two. Their population being in 1830, three million ten thousand six hundred and eighty-two, against five million fifty-eight thousand one hundred and fifty-four, in 1840. Taking the census of 1830 and 1840 as a guide for that of 1850, the only one we can have until the census for the present year is taken, and admitting that the increase of population has been no greater the last ten years than it was the preceding ten, we have on the first of June, in the Western States, seven million five thousand six hundred and twenty-six souls. Taking the same standard for our basis as it regards the New England, Middle, and Southern States, let us see what proportion the increase of population in the Western States will bear to the other three great sections of the country. In New England, in 1830, the population was one million nine hundred and fifty four thousand seven hundred and seventeen. In 1850, two million two hundred and thirty-four thousand eight hundred and ninety-two — increase, one million two hundred and eighty thousand one hundred and five; making the whole population of New England, in 1850, three million five hundred and fourteen thousand nine hundred and twenty-seven. In the Middle States, embracing New York, New Jersey, Pennsylvania and Delaware, the population, in 1830, was three million four hundred and thirty-five thousand eight hundred and twenty-eight. In 1840, four million six hundred and four thousand three hundred and forty-five, being an increase of one million six hundred and eighty-five thousand five hundred and seventy-two. Admit the *same increase* in the last ten years, and the Middle States would have, on the *first of June last*, a population of five million six hundred and seventy-two thousand eight hundred and seventy-two.

The Southern States, Maryland, Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, District of Columbia, Florida, *including* their slave population, had, in 1830, four million two hundred and thirty thousand six hundred and eighty-one inhabitants. In 1840, five million one hundred and sixty-six thousand and thirty-two, the same increase for the last ten years would give them, on the first of June last, six million one hundred and one thousand four hundred and thirty-six inhabitants.

The population, then, in 1850, in these great divisions of the Republic, will probably show as follows:

Western States,	population	7,005,626
Southern States,	"	6,101,436
Middle States,	"	5,672,872
New England States,	"	3,514,923

Showing an excess of population of the Western States over the Southern, excluding Texas, of nine hundred and four thousand two hundred—and less than New England and

the Middle States, of two million one hundred and eighty-two thousand one hundred and seventy-three.

But owing to the great increase of the Western States in comparison to others for the last ten years, judging from the increase in some of them for the ten preceding ones, we think it a safe calculation to add *twenty per cent.* on the increase of the Western States for the last ten years over that of the preceding. If this is done, (and we believe the increase in some of them will be shown to be much larger than that,) the Census of the Western States will show nearly eight millions of souls, or something more than *one-third of the whole population of the United States.*

What proportion of the whole revenue of the Government expended, has been allotted to this portion of the Confederacy, is a question not easy of solution.

That it bears no proportion whatever to the amount expended in the other three great divisions of the United States, as we have classed them above, is, we think, universally admitted by even those portions which have been most largely the recipients of Government favor.

That we have been for years overlooked or neglected is apparent. That we have contributed our full proportion to the *common fund*, is not denied, and as it appears to us, it would be but a sheer act of justice to donate to us from the coffers of the Government that which of right belongs to us; and the donation of which would not only enure to our benefit but to that of our common country. That this is so let the argument which we propose to submit, and the statistics therein drawn, from *unquestionable sources*, answer.

The power, magnitude, and resources of a country consist in four things—its *Population*, *Capital*, *Communication*, and *Natural Productions and Elements.* Cities merely collect, change, and distribute them. Population, the first element of power in a State, follows the natural resources of a country. *What that is, to what it has been* in the last thirty years, we have shown above, from the tables which the Government itself has supplied us with, to wit: the census of the several years thus far taken, and the very reasonable increase allowed for that which is being taken.

The next subject to be considered is our Capital. That it has increased in the last thirty years in the West beyond any other section of the United States—that it is increasing, and will continue to increase here beyond any other portion of the Union, we think undeniable. There are circumstances surrounding us, in our midst, connected with our very being and existence, which must accumulate it *here*, in a proportion never before witnessed in any other country. These circumstances are: 1st, the great industry of our people, educated to

industrious habits under our free institutions. Secondly, the posssession of money's value in our inexhaustible agricultural and mineral resources. Thirdly, the great advantages and facilities for manufacturing.

It would be impossible in a memorial like this to show the extent of our resources in these particulars. We have not the data at hand, and must therefore confine ourselves to generalities, instead of entering into detail. The article of *Coal*, for instance, so important for consumption by our own people, so necessary for all purposes of manufacturing in the absence of water power, so indispensable for our naval and commercial marine, as now constituted forms but one part of our mineral resources, a most important one it is true, but only a part. What has the Government ever done, indispensable as it is to it, in giving us a *Geological Survey*, showing either its quantity or its quality. And yet one of their officers has within the last year estimated the amount absolutely needed for the commercial and naval marine of the Gulf in a few years, at 20,000,000 of bushels Take but a portion of our coal fields, embracing the southern and western counties of Indiana, part of Iowa, Wisconsin, and Illinois, what is commonly called the "Great Illinois Coal Field."

It equals in area the entire Island of Great Britain, extending from South-east to North-west, from Oil Creek and Rome, on the Ohio River, to the mouth of Rock River, on the Mississippi, a distance of three hundred miles; and south to north, from the waters of Green River and Treadwater, in Kentucky to the waters of little Vermillion, in Lasalle county, Illinois, a distance of three hundred and twenty-five miles. And from south-west to north-east, from St. Louis, and the waters of the west branch of Saline river, in Gallatin county, Illinois, to the forks of the Fox and Kankakee rivers, a distance of two hundred and fifty miles. A coal field occupying the greater part of Illinois, almost one-third of Indiana, a north-western strip of Kentucky, and extending into Iowa, embracing every variety of bitumenous coal. The thickness of the entire mass is supposed to be from 1,200 to 2,000 feet, and contains at least seven *workable* beds of coal. If we assume the average thickness of these coal beds, collectively at 21 feet, which is probably below the truth, and the area over which they extend, at 200 miles square, or 40,000 square miles; then we have a mass of coal on land, of which the Government is the *largest proprietor* of 23,417,856,000,000 cubic feet, or 867,328,000,000 cubic yards or tons of coal, (a cubic yard of coal being nearly equal to a ton.) Let us imagine this coal, worked, and estimating the profit in a ton of coal at fifty cents, this would give in round numbers, a clear income of $400,000,000,000, to be derived from the working of this coal field. It may also be further remarked, that the strata of this coal field is more

easily accessible along the south-eastern and south-western margins, along the *Ohio and Mississippi rivers* than toward the north-east, by reason of the extensive diluvial deposits which cover the strata in that direction. But coal comprises by no means the entire resources of these Valleys. The slaty clays contain certain extensive deposits of clay iron stone—an ore easily and profitably melted into pig iron. Great Britain produces annually 600,000 tons of iron from ore of the same quality, procured in a similar geological position. Valuable and extensive deposits of hydrated brown oxide of iron—an ore of the same kind worked in Tennessee, are also of frequent occurrence near the margin of this coal basin. The proximity of these ores to coal, greatly enhances their value, since this is the material used most frequently for their reduction. The sand stone at the base of this formation affords material for furnaces, grind stones and buildings; while some of the slaty clay, when disintegrated, produce excellent fire clay. The materials for the production of copperas and alum, are also widely distributed amongst the slate clay, under and overlaying the strata of coal. The importance of the limestone, (so abundant in the whole region,) as a flux for the iron ore, for construction, and burning into lime, are too well known to need comment.

Such are the views and opinons of this most interesting region, given us by Dr. David Dale Owen, now United States Geologist, and made at the expense of the State of Indiana, in a cursory examination of the section referred to. What we ask is a more thorough and elaborate geological survey, made by order of the Government, and embracing a much more extended sphere of the Great West. It is due to the States themselves—it is due to the Government itself. In a short time, it is to be hoped, she will be creating armories in the West, and surely, it is all-important *to her interest*, to know whether the material for such establishments are readily found in the regions where they are to be located.

The question of a full supply of those two great elements of national wealth, and national power, coal and iron, is well worth investigation, and can only be determined by a full and minute examination, made under the authority of an act of Congress. Surely, if the Government have thought it their duty to make a geological survey of the lead and copper regions of the lakes, much *higher* considerations connected with their obligation to the West, and their *own interest* require a minute and accurate survey of the coal and iron region in the Valley of the Mississippi.

The next subject to which we would call your attention, is the *natural communication* of any *one point* on the Ohio or

Mississippi rivers, Pittsburgh, Cincinnati, Louisville, Evansville, Memphis, St. Louis, Quincy, or Galena, with any other point on the same waters, or their tributaries. These connections are immense, and these communications between Western and South-western cities in the Valley of the Mississippi, are rapidly increasing. The effects of such communications are daily multiplying, in all directions. In order to form a better opinion of their increase, we take from the Report on Commerce and Navigation, accompanying the President's Message, and one of the documents published at the last session of Congress, the specific statement of the number of steamboats built in the United States since 1824 (twenty-five years) divided into periods of five years each.

Before so doing, however, we may be permitted to remark that while Congress very readily seems willing to appropriate any sum to the extent of the quantity and value of our *external* commerce, yet these reports are entirely silent on the subject of our *internal* commerce— a commerce vastly greater than any we have with foreign nations—and that you may look in vain through all the documents connected with our statistics as a nation, to find a single column devoted either to the *commerce* or *manufactures* of the *West*. And it is only here and there that a single table can be found which inferentially even can give you the least light upon the subject referred to.

From the documents above named it would appear that the whole number of steamers built in the Uhited States, for the last twenty-five years, was two thousand four hundred and ninety-two—as follows:

From	1824	to	1829	194
"	1829	to	1834	204
"	1834	to	1839	504
"	1839	to	1844	521
"	1844	to	1849	969
Total,	-	-	-	$2,492

Two thousand five hundred steamboats built within twenty-five years! If we give two hundred tons as the average of these boats, and it is probably below the mark, we find that the steamboat tonnage in that period amounted to *five hundred thousand tons.*

Let us now see what part the West had in this business. From the Reports on Commerce, for the years 1846–48–49, we find in three years, the steamboats built in the West compare with the total number as follows:

	In the West.	Total in the U. S.
In 1846	130	175
In 1848	152	225
In 1850	155	208
Aggregate	437	608

Thus we see that of the whole number of steamboats built the last three years in the United States, *two-thirds* were built on the Western waters, and of this number, one-sixth were built in Ohio, and one-seventh at Cincinnati. The largest number of steamboats built at any one place, were built in Pittsburgh. In 1836 there were 143 steamboats, carrying 24,000 tons, navigating the Western waters. In the last five years there have been built 1,000 steamboats; of these 700 were built on the Western rivers. The life of a steamboat does not average more than five years. It is safe to say, then, that there are more than 800 steamboats now running on the Western waters, and, averaging their tonnage at two hundred tons each, carrying *one hundred and sixty-thousand tons of freight.*

"Here we see one element of the growth of Western commerce—a commerce whose magnitude must at an early day, surpass anything the world has yet seen of commercial development."

It is impossible to approximate to anything like the truth, in reference to our commercial statistics. We can only arrive at it by details, furnished in solitary cases, by taking our own products and value, as furnished by the Auditor's and Assessor's books in the West, and to all of which we have not, at present, access. Take the article of Pork, for instance—and the same may be said of Beef. It is out of our power to give the aggregate quantity shipped on the Western waters any one year, the amount is enormous, and would scarcely be credited if we had the figures. Some approximation, however, may be made by taking the State of Ohio as an example of the number of hogs assessed for taxes, for the last three years—in 1848 the number was 1,486,191; 1849, 1,730,466; 1850, 1,728,794; of this quantity it is fair to suppose that *two thirds* are exported. We have spoken of the connections between the different points in the valley of the Mississippi, they are immense, not less than *twenty-thousand miles* of their coast is accessible to *this point* by steamboat navigation, and the effect of these communications, on the whole West and Southwest, is daily manifesting itself. What is the result? Cities are doubling and trebling their population, farms are opening in all directions, our forests are bowing before the axe of the settler. The green sod of our prairies is everywhere broken up by the plough of the husbandmen. Our corn and wheat fields teem with the rich

abundance of their products. We are not, sa we were, a few short years since—laboring for our own sustenance—but freighting our products to every clime where American and foreign ships can carry it, and in return, receiving the products of other lands, for *our* wants, and upon which *duties* are paid *by us* to the Government, thus swelling the coffers to an amount, we venture to say, received from no other part of the Union, for there is scarcely an article subject to duty, but what enters into the consumption of the Western people, and the importation of these dutiable articles are swelling to an amount that could hardly be credited, did not the statistics of the West show that this is true. Take for instance, the imports into Cincinnati, twenty-five years since, and compare them with what they are now. We set down the value instead of the quantity.

	1826.	1848.
Coffee	$198,000	$1,080,000
Sugar	80,000	1,629,000
Brandies & Wines	200,000	500,000

And yet this is but a single point in the Valley. We presume that Pittsburgh, Louisville, and St. Louis, would show an equal, if not greater increase—and the consequence is, instead of paying duties as we formerly did at ports on the Atlantic, New York or New Orleans, our own commercial towns, are ports of entry and delivery, the duties are paid here—and the result is now, a direct importation of foreign merchandize to all the principal towns on the Ohio and Mississippi rivers. These importations keep pace with our increase of population, and but a few years will elapse before the Customs here will compare favorably with many cities on the seaboard.

In former years the foreign goods imported had their duties paid at the cities on the seaboard where they were landed; they were then carried across the mountains, or up the Mississippi and Ohio, to their several destinations in the West. But the whole aspect of commerce in the West is now in a great degree changed by the change of locomotion; and it has been very justly and truly stated, "the merchants of Memphis, St. Louis, Louisville, Cincinnati, and Pittsburgh, will be as much the merchants of America, as the merchants of New York, Philadelphia, or Baltimore." The growth of our cities, and the immense distribution of foreign goods here now, prove this fact conclus vely: while every year the importation of foreign goods to the West directly is increasing, the table above shows what it has been to a single city, and this is but one among the great number that are to spring up in our Valley. The fact is, (and the statistical table will prove it for the

last ten years,) that the commerce of the West has grown faster than its population, great as that is.

Among the avenues which lead this population and this trade to the West and South-West, the principal ones are the Ohio and Mississippi rivers. Extending with their tributaries (many of which are as navigable most seasons of the year as the streams into which they empty) a distance of twenty thousand miles, running through a region unsurpassed in the world for its agricultural products and mineral resources—running from north to south through eighteen degrees of latitude, and having on their margin and along their borders, thirteen States of the Confederacy, embracing a population five times as large as the good "old thirteen" at the first organisation of our Government.

What has Congress done for their improvement? Nothing—absolutely nothing. And these great arteries---these great "Inland Seas," which waft on their surface annually, millions of human beings, and convey on their waters an inland commerce far exceeding that carried across the Ocean by the whole domestic and foreign marine, are now, so far as navigation is concerned—so far as improvement is concerned, but little, if any, better than when the first "broad horn" floated down the Ohio and Mississippi rivers fifty years ago, and deposited her cargo of flour and whiskey, after a two months voyage, in the Spanish port of New Orleans.

The action of Congress towards the West has been heretofore of the most anomalous character. Occasionally holding out the promise of some great benefit, of some act to be done, which should promote in some degree Western interests, they have so contrived it that only some initiatory step should be taken, and then the matter has slumbered---or so worded the act conferring the benefit that it has in effect been rendered entirely nugatory. More than one example of this kind of national legislation might be given. Some seven years since an appropriation was made by Congress to locate an armory on the Western waters. What has been done since in the premises? Immediately after the appropriation was made, during President Tyler's administration, a corps of Engineers was detailed, and the Surgeon General of the United States Army attached to it, with a view, probably, of determining the exact quantity of Malaria there was at any one given point on the Ohio river. They made the recognoisance---were some four months engaged in it, presented their account and report, the first was paid, and the last now lies in the Pigeon holes of the War Department, where it probably will lay until some Cerberus of the Treasury calls for the report and account, with a view of showing the immense extravagance of the Government in their expenditures for Western improvements. For

the Armory itself, not the first dollar has been expended, nor the first stone laid. Again, Congress at its last session, not we believe, very willingly sanctioned by their act, the truly national policy, of procuring the hemp necessary for the Navy, from the American producer; thus far, something was gained; but here the act stops.

It is well known that one of the great staples of the West, is hemp. The two States of Kentucky and Missouri probably raise more hemp than all the other States in the Union. To render the policy valuable to the producer, and effective to the Government, the hemp should not only be purchased but inspected and manufactured near the place of production. "By so doing, (and there is no good reason why it should not be done,) the hazard and cost of transportation would be saved to the grower, while the Government itself would save the cost of transportation between the manufactured article and the bulky raw material.

Instead of shipping the raw material around to the Navy yards of Boston, New York and Philadelphia, and Norfolk, why not erect Naval Rope Works, at points convenient to the hemp region, say at Louisville or St. Louis, where the article could at all times be easily produced, and the manufactured article could be safely shipped. No, the raw material, one of the most bulky in commerce, is shipped down the Mississippi, carried along our whole extensive seaboard, to the port of Boston; and the manufactured cordage, reshipped, and carried up the Mississippi, to supply the Navy yard at Memphis. We have merely attempted to show the narrow policy of Congress in its legislation as regards the West, by the instances enumerated. We might, if necessary, mention others not less injurious in their consequences to our growth and prosperity, if it were necessary. Those we have named, we think, are sufficient to show that Western interests are very little cared for in our National Legislature.

The next grievance to which we would call the attention of Congress, is the entire want of *Postal arrangements* in the West, fitted to furnish our citizens with those mail facilities demanded by our business and population. It would appear from the action heretofore had on the subject, either that Congress or the Postmaster General were entirely ignorant that more than one-third of the people of the United States, residing in the Valley of the Mississippi, and paying more than one-third of the whole revenue, had any need whatever of letters or papers, that they ever wrote the first or read the last; or that in any way, they were connected with other sections of the Union, from which they would be glad occasianally to hear. That our merchants and men of business, interested in an internal commerce of more than two hundred millions of dollars,

extending along the Ohio and Mississippi rivers, more than two thousand miles, and their tributaries much farther, should be left to the casual chance of a way passenger on a steamboat, or the more uncertain one of a flatboat, to forward their business letters *in advance* of the mail, to their correspondents along these great streams, would hardly be credited. Yet, for the want of a more direct and certain conveyance, this is frequently the case; and we venture to say, that for want of more direct mail facilities, *one-third*, at least, of the correspondence of our business men and others, is carried out of the mails, on the western waters—that postage enough is lost to the Government, from forwarding letters otherwise than by mail, to pay all the expenses of a daily river mail, touching at every town from Pittsburgh to New Orleans. Yet, notwithstanding our constant application to Congress—our reiterated complaints for years, to the Post Office Department, who would believe that of the large sum of $2,540,000 asked for and appropriated by Congress, for the transportation of the mails within the United States, less than $50,000 is applied for the transmission of the mails by the river, from Pittsburgh to New Orleans, that there is no *river mail* from Pittsburgh to Cinncinnati, although there is a daily line of steampackets running all the year. But a *tri-weekly* mail is carried between Louisville and St. Louis, and a similar one between Louisville and New Orleans. That up the Kentucky and Green Rivers, with tri-weekly packets running all the year to Frankfort and Bowling Green, no mail is carried—none on the Tennessee or the Cumberlan; making at least 1,800 miles of *inland* navigation in the most populous portion of the West, unsupplied with a river mail, and which might be supplied at comparatively a small expense, three times a week, by steamboats running on the waters. That the Post Office Department absolutely refuses to allow more than the pitiful sum of *sixty-five* dollars a *trip* unconditionally, for carrying the large mail from Louisville to New Orleans, when, for the moderate sum of *one hundred dollars a trip*, undonditionally, the best contractors in the West, on the best and fastest boats that navigate the western waters, offer to carry it *daily* and *regularly*, supplying with mail matter all the year, the whole of southern Kentucky, Indiana, Illinois, Tennessee, Missouri, Arkansas, Mississippi, Louisiana, and Texas, eight States of the Confederacy, and fully four million of inhabitants.

Less than fifty thousand dollars applied to this great object! while Congress lavish upwards of $1,100,000 to fit out expensive steamers, enriching beyond all calculations, a few speculators, to carry a mail to two ports on the coast, Charleston and New Orleans, thence to Chagres, and from Panama to San Francisco and Oregon. The adventurers to the first, and the Indians

of the latter, receiving mail facilities to an amount exceeding *one million* of dollars, while the whole population and business of the Valley of the Mississippi, by steam communication, gets less than fifty thousand.

But this is not all. For carrying the mail on steamers to Southampton and Bremen, an additional sum of $783,000 is annually paid by the Government; and the argument used for this immense outlay, as in the case of those carrying the mail to the Pacific, is, that they are to be turned over to the United States, "*in case of war*"—an event not very likely, as we trust, soon to take place, at least during the life of the steamers, unless, as some predict, it should happen among ourselves, in which case the contest for their possession would be between other parties; the West taking no part in the matter except as pacificators. Again, it was only at the last session of Congress, that the modest sum of $480,000 was asked for a mail line to Africa, with the avowed purpose of carrying all the free negroes out of the country, at $50 per head. The chairman of the Committee who introduced the bill, (the naval Committee) was a distinguished gentleman from the West—from the Valley itself. We feel no disposition to criticise these appropriations for foreign mail service; they may be all right; but may we not ask the honorable chairman, and especially the members of Congress from *the West*, whether one-tenth or one-twelfth of these sums granted and asked for, for an object exclusively *domestic* and nationl, for increase of mail facilities on the Western waters, when they are so much needed, would be at all extravagant? Whether, in fine, such an appropriation would not be just and meritorious under all the circumstances? So far from such an appropriation being an additional tax upon the Post Office Department, we firmly believe it would be the very best economy, insomuch as we are satisfied with additional facilities thus given for the transportation of the mails on the Western waters, the revenue of the Department would be greatly increased, and that the increased transmission of letters *by mail*, along these waters, would double the amount expended in a single year. So that viewing the question as one of policy and not of right, the Government would be the gainer in a pecuniary point of view, by granting us the facilities asked for.

Can our friends in Congress then from the North and the South be so blind as not to see that this state of things cannot be endured much longer—that unless something is done the patience of our people will be exhausted, that the promises so long held out are not fulfilled—that while we compose fully *one-third* of the whole population of the Union, and pay fully one-third of its taxes—bear *one-third* of its burdens—that there should be some *reciprocity*, some spirit of *equality* in the

distribution of the public money. Have we not suffered enough? Have we not borne it patiently? Year after year we have been knocking at the door of Congress, asking no favors but simply demanding our right. How have we been met? Year after year by a refusal—an absolute denial—and when our portion of the public patrimony has been doled out to us, has it not been with a sparing hand—like the gift of a miserly parent to an importunate child? And how has the west acted towards her sister States? Not a fortification that bristles along our coast—not a frigate that navigates the ocean—not a light house that points the path of safety to our mariners on the seaboard—not a survey of our harbors has been made, or a custom house built—but what the money which provided for the one, and built the other, has been furnished by means of Western votes. But how is it in regard to Western appropriations?—appropriations to remove the snags and sand bars, and obstructions of the Ohio and Mississippi rivers—obstructions which in a single season produce more loss than all the money ever expended by the Government on these rivers would pay for—obstructions which *this very year* have caused a loss to the West greater than the whole amount of money expended by the Government in keeping up its army or its navy. Why not a dollar can be got—and the whole commerce of the West, from Pittsburgh and St. Louis to the Gulph, runs through a gauntlet of dangers and difficulties, which no human prudence can shun, no human skill or sagacity escape; all of which might be avoided in a single year, if Congress would but expend a tithe of the money annually squandered elsewhere, without any practical purpose or useful result.

The representative from the North, who asks Congress for an appropriation to build a light ship to be stationed off Cape Cod, asked it upon the ground, "that it has a tendency to facilitate, to promote and protect the interests of commerce." It seems to us that it would be proper to apply the same rule whenever the reason of it exists, yet these legislative Solomons, seem to think otherwise, and while they would expend a half million of dollars in building light-houses in "Buzzards Bay," or placing buoys in Martha's Vineyard Sound, would deem it unwise, inexpedient, aye, unconstitutional, to remove the snags and sawyers of the Mississippi. Statesmen of such *acute* and *discriminating* minds, as to deem it perfectly *constitutional* and *right*, as has been justly said, "to light up the evening path of commerce in the East—but altogether wrong to prevent the commerce of the West from being destroyed in open daylight." We ask, then, for us only the application of a rule deemed right and proper elsewhere — to give to the commerce of the West those aids and advantages which are furn-

ished by the Government to that of the *East.* Nay, we do not ask even this—give us but a tithe of what has been expended there within the last ten years, and we shall be content. The *constitutionality* of such an appropriation by Congress, to the Ohio and Mississippi rivers, for *their* improvement, it is a little too late in this middle of the ninteenth century to question. The constitutionality of such a grant has been approved of by every President for the last twenty years—sanctioned again and again by Congress, and the strictest States right man, south of Mason and Dixon's line, has *now* not a doubt upon the subject. What excuse then can Congress furnish the country for a *further* delay in making an appropriation for an object so just, so expedient, so constitutional—an object all important to the West—all important to the country. We make no boast—we intimate no threat, if *again* we are denied *this claim of right.* Again and again we have presented it to the consideration of Congress—again and again it has been refused—we have neither murmured nor threatened, at what we have conceived such gross and palpable injustice. While millions have been expended along the Atlantic coast, for purposes precisely similar to those for which we ask but comparatively a small sum, we have been silent—far from denouncing—we have not complained. Other sections of the Union, more sensitive with burdens less onerous—for causes more trifling—for neglect of their interests less apparent, would have threatened "secession." Not so with the West—at all times and under all circumstances, our people have been conservative—so far from being either "secessionists" or "disunionists"—they have but one country, one constitution, one destiny." Our attachment to the North and to the South, is equal—we view them as brethren—we are literally "bone of their bone, flesh of their flesh,"—they are our *common ancestors,* and whatever differences of opinion may have sprung up among them, in the heated controversies of the day, they may rest assured, *from us at least,* they are not separated, either in affection or interest; nor ever can be—we are too firmly united to them by other ties, than those which bind us as States—by the ties of consanguinity of blood—of kindness and mutual benefit, and advantages to both, ever to withdraw ourselves from them by *any act of ours.* To our elder brethren of the Confederacy, both North and South, who have been portioned out already to their full share of the patrimonial estate, we but ask as your younger sisters, to be placed on an equality. We have arrived at that age when we think we are entitled to something like a fair division of the common fund—a fair share of its benefits and advantages—ready now as we ever have been to return it to the common treasury of the nation, whenever the Republic requires its repayment—for when

we would ask, has *this great valley* in which we live, been niggardly of its treasure or its blood, whenever the common interests of the country required their expenditure.

In conclusion let us say—and we may say it in the true spirit of *fraternal feeling* to our brethren of the North and the South—"Our Union must not be sundered;" the golden cords which have hitherto bound us together must not be broken—our *common interests* require that there should be no secession, no disunion, for we hold the terms synonymous—not a star, not a stripe of our glorious flag must be dimmed, far less erased from that noble emblem of our common fame—our common glory—our common country. We speak what *we feel*, we speak what we *know*, from association, *is the feeling* of our *whole people*. As the Representatives of the Western States here in convention assembled we speak their *united* voice—the voice of all *sections*, of all *creeds*, of all parties, when we say that at all hazards—regardless of all consequences—"Our Union *must* and *shall* be preserved."

In view then of the facts above set forth, we would respectfully memorialise Congress at its ensuing session, to make us appropriations for the following subjects:

1st—To carry on and perfect a thorough and minute examination of the mineral region of the West, with a view to its capability for supplying the articles of *Coal* and *Iron*, so useful and necessary for manufacturing purposes—for the commercial marine of the country—and for the naval marine of th Government; and that for that purpose an appropriation be made for a scientific and geological survey to be made by some United States geologist to be hereafter elected.

2ndly—To carry out and perfect a thorough Postal arrangement throughout the Western States, and especially along the Ohio and Mississippi rivers, and their tributaries, so that a *daily mail* may be furnished to the towns along the first named streams from Pitsburgh to New Orleans.

3dly—To make a liberal appropriation for clearing out the snags and sawyers of the Ohio and Mississippi rivers—removing obstructions caused by shoals and sand bars—and deepening the channels of said streams, so that navigation may at all seasons be open, and the dangers and losses now submitted to, avoided.

4thly—The *inspection* and *manufacture* of the hemp purchased of the producers in the West, under the Act of the last sessoin of Congress, in the several States in which the same is purchased, instead of shipping the same East for inspection and manufacture, thereby creating a great saving to the Government, and further advancing the interest of the producer.

5thly—The establishment of one or more armories on the Western waters.

6thly—That the Senators and Representatives from the Western States in Congress assembled, be requested to use their influence in procuring the passage of such Acts as will most effectually carry out the intentions of this Convention, and secure the objects of their meeting, as set forth in the above memorial.

JOHN LAW,
C. I. BATTELL,
HAMILTON SMITH,
ELISHA EMBREE, } Committee.
ISAAC HUTCHINSON
JOHN INGLE, Jr.,
M. J. BRAY.

On motion of A. H. Sanders, it was resolved by an unanimous vote that said memorial, in all its features, be adopted as the vote of this Convention.

Mr. Risk vacated the Chair in favor of Judge Law, for the purpose of offering the following resolutions:

Resolved, That it is the duty of the Congress of the United States to donate public lands to aid in prosecuting and effecting a thorough geological survey in all those States where there are large bodies of mineral land still belonging to the General Government.

Resolved, Also, that it is the duty of the Federal Government to make grants of the public Domain, to aid in establishing a school of Mines, Agriculture, Metallurgy and Chemistry. Such school to be located in some central part of the great mineral region of the West.

Resolved, That it is the duty of Congress, in view of the protection of life and property on the navigable waters of the Mississippi Valley, to institute a series of experiments on the capacity of steam-boilers—and if practicable, to ascertain the precise causes of their explosions and collapses, in order to ascertain what legislation on the subject is necessary. And in the opinion of this meeting, such experiments should be made under the direction of an united commission of scientific and practical engineers.

Resolved, That the President of this Convention appoint a committee of five, whose duty it shall be to memorialize the Congress of the United States in favor of the importance of donating a certain amount of the public lands to actual settlers.

Also, In favor of making liberal grants of the public domain, to aid in the prosecution and construction of all legitimate objects of Western internal improvement, national in their character. And:

Also, For the establishment of a scale for the graduation of the price of the public lands that will ultimately extinguish the title of the Federal Government at a given period within the several States.

Resolved, That the Government of the United States having some few years ago, instituted a series of experiments upon the character and quality of the coals of the United States, which embraced only those of the Atlantic States, it is expedient and proper, for the interests of commerce and manufactures of the States of the valley of the Mississippi, that a similar set of experiments should be made upon the material in these States.

After the reading of them, Mr. Risk addressed the Convention in their support in a brief and pertinent speech.

Hon. Hamilton Smith, being called upon, offered the following resolutions to be added to those already introduced.

Resolved, That our members of Congress be requested to advocate the appointment of a commission, to ascertain the capacity of our country and people, to compete with foreign countries in the production of fabrics of iron, copper, lead, cotton, flax, hemp, and wool, without change in the rates of capital and wages, and without the protection of a Tariff. Such commission to have full powers of obtaining all the facts and testimony on these subjects, at home and abroad, and to report in detail.

Mr. Smith then proceeded to address the meeting in a speech that elicited much applause, and from its important practical facts and statistics bearing upon the objects of the Convention, elicited the following motion, offered by John Ingle, Esq., and unanimously adopted:

Resolved, That Mr. Smith be requested to furnish for publication, a copy of his remarks, so far as possible.

The previous resolutions being open for discussion, Mr. Hewitt was called to the floor, and made a few practical remarks.

He was followed by Hon. N. Albertson in a short address, warmly supporting the objects of the meeting, and alluding to his course in Congress, as a Representative from this district, as proof that there, he had on every occasion supported appropriations for Western improvements, and been instrumental with the assistance of friends at home and there, in securing to Evansville Daily Mails and a Marine Hospital appropriation.

After some other remarks by different gentlemen, the question was taken upon the resolutions, and they were adopted.

The President pro. tem. then appointed the following gentlemen as the committee demanded by one of the resolutions —Messrs. Thos. F. Risk, Hamilton Smith, John Ingle, Jr., C. I. Battell, Austin Pruett.

On motion, resolved, that the thanks of this Convention be extended to the officers of the same.

Resolved, That the editors of the Journal and Republican be requested to publish the proceedings of this meeting as made out by the Secretaries.

It was afterwards resolved that five hundred copies of the proceedings, memorial, &c., be published in pamphlet form, and that members of the present Congress be furnished with copies of said pamphlets.

The Convention then adjourned.

THOS. F. RISK, *President.*

A. H. SANDERS, } *Secretaries.*
JOHN J. CHANDLER, }

The leading measures embraced in the foregoing resolutions, offered by Mr. Risk, having been discussed by ourselves, and others, in the Western Journal, it is but natural that their adoption should afford us a high degree of gratification. Thus endorsed by a convention, composed of men distinguished on account of their experience, ability and soundness of judgment, we cherish the hope that they will receive that careful consideration, on the part of Congress, which their importance demands.

The resolution offered by Mr. Smith contemplates an improvement in national legislation which has been greatly needed, ever since the adoption of the Federal Constitution. For it has been owing chiefly to a want of correct information relating to the capacity and cost of producing fabrics, of cotton, wool, iron, &c., in this and other countries that so much difficulty has, at all times, been experienced in the adjustment of tariff regulations.

And, besides affording facts for the guidance of the legislator, the report of such a commission, as is proposed by the resolution, would be calculated to make our resources better known, both at home and abroad; and, give to capital and labor a direction and employment more safe and profitable.

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INAUGURAL ADDRESS OF PRESIDENT SHANNON.*

Curators of the University of Missouri,
and Fellow-Citizens in general:

We live in an auspicious age, and are assembled on an auspicious occasion. *Heretofore*, the adage, "Truth is stranger than fiction," has been generally regarded as belonging of right to the regions of poetry and romance. *Henceforth* its domicil must be sought among the sober realities of business, moulded and stimulated by the unceasing and wondrous developments of science.

At the beginning of the present century, or even at a much later period, the man who might have predicted what steamboats have long since accomplished, would have been regarded at least as partially insane. And had some towering genius anticipated, and *ventured to predict*, the progress that has since been made in mental, moral, and physical science, in railroads, steamships, electric telegraphs, &c., &c., the loss of reputation, if not a place in a lunatic asylum, would have been his sure reward. In a few days, the steam engine now propels the floating palace across the broad Atlantic; while the lightning, duteous handmaid, waits her arrival, ready to waft, in a few moments, whatever intelligence she brings, to gaping crowds, throughout the limits of a vast Continent; and the sturdy railroad demands but a few days more to deposit the rich cargo on the surface of the northern Lakes, in the centre of the great Valley, on the fair bosom of La Belle Riviere, or on the majestic expanse of the Father of Waters. May we not well say, "Truth is stranger—stranger than fiction?"

Judging from the wondrous developments of the past, and the magic realities of the present, who shall fix a limit to our future progress? What gigantic intellect, angelic or human, shall calculate—or, by the utmost stretch, of imagination's creative powers, even approximate, what may be accomplish-

* This excellent Address will, we think, be found highly acceptable to all our readers; but we beg to commend it more especially to the people of Missouri. It is their interest and their duty to build up and encourage their own Literary Institutions; for it would be as reasonable to expect that the State could prosper and grow rich by relying upon other countries for bread, as to suppose that the intelligence of the people can be improved by resorting to the Literary Institutions of distant States for instruction. No other place on this green earth is so suitable for the education of our youth, as this great Valley. If we desire that their minds should grasp and comprehend the interests of this broad region, they must remain here during the season of mental debelopment, to the end, that their sympathies, as well as their intellectual views, may have room to expand, until they shall embrace not only this Great Valley but the entire Union. EDITORS.

ed by the Anglo-Saxon race within the narrow limits of the next half century! Compare our present condition with what it was within the memory of multitudes still in the prime of life, and what can fancy in her wildest flight anticipate more wonderful than the contrast; or less credible, till demonstrated by successful experiment, than the magic realities of the present hour?

Compare man, God-like man, in this terrestrial paradise, blessed with the wonderful realities of the present, and cheered with the sublime yet rational anticipations of the future — compare man, thus favored, with what he was in former ages, or what he still is in many climes, and in the savage state — on one hand, but little lower than the angels, on the other but slightly elevated above the brutes—and tell me, what creative or talismanic power has produced the magic transformation. Tell me, ye who know, that we may all understand, and appreciate the heavenly boon. 'Tis education. Education, then, be thou my theme!

I esteem it a high privilege, fellow-citizens, that I enjoy the present opportunity of holding converse with you on this important subject; and that I have the pleasurable anticipation of devoting my best energies to the advancement of this good cause in your midst. Your faith in the priceless value of education, you have irrefutably established by your works. This noble edifice, unequaled by any thing of the kind in the Great Valley, this magnificent temple of science, erected at your expense, speaks volumes in attestation of your intelligence and liberality. That a single county, in a frontier and newly settled State, and at a time of great financial depression, and general pecuniary embarrassment, should have contributed one hundred and twenty thousand dollars for the establishment of an Institution of learning, is (so far, at least, as my information extends,) unparalleled in the annals of benevolence. Most ardently do I desire, and most fervently pray, that you may yet reap an abundant reward; and that your praiseworthy example may stimulate myriads of others, emancipating their souls from the sordid idolatry of Mammon, to go and do likewise.

But, that you may be rewarded, as you deserve, in the speedy and permanent success of the University, will require united, energetic, and persevering efforts on the part not merely of the Faculty and Curators, but of this whole community, and of the State. In newly settled and sparsely populated regions, Institutions of learning, especially those of a high order, have difficulties to contend with, of which the great mass rarely form an adequate conception. But in times of high excitement on any topic, not directly subservient to education, those difficulties are of necessity greatly enhanced.

We all know how prejudicially the excitement connected with the late Mexican war, operated on institutions of learning, especially in the South and West. The blighting influence of the present *gold fever*, sweeping like a malignant pestilence through the land, throwing its unfortunate victims into the wildest delirium, and leading them in the height of the paroxysm, almost, if not quite, to imagine, that gold is godliness —is greatly to be dreaded, in its bearing on the interests of education, and upon all that is most valuable in the family, the Church, and the State.

I say these things, however, not in a spirit of despondency; but that, anticipating in part at least the difficulties, with which we shall have to contend, our energies may be the more harmoniously and successfully exerted in the removal of those difficulties; and in building up in this beautiful village an Institution devoted to education, of which not merely Columbia and Boone County, but the whole State, may justly be proud. Thus much we should aim to accomplish. With less than this we ought not to remain satisfied. Let us then, fellow-citizens, arm for the combat. And, if the eloquent signal—"England expects every man to do his duty"—inspired British tars with death-defying courage on the memorable day of Trafalgar, let the thought that our honored Commonwealth expects every man to do his duty in this nobler conflict with the powers of darkness, and in redeeming her children from the bondage of ignorance, inspire our hearts with that indomitable energy, which, in so holy and just a cause, "*never surrenders.*" Let us but do our duty like men, brave men, tried and true—as Americans, Patriots, and Christians—and the laws of Heaven must be subverted, ere we can fail of our reward.

What, then, is the duty, to the performance of which, either as principals or aids, we are thus invited? In other words, What is education?

As a matter of course, it will not be expected, that, on a subject so hackneyed, any thing new can be said, or written. The utmost to which I can reasonably aspire is, "to stir up your pure minds by way of remembrance"—to remind you of important truths, with which you may have already become familiar, as expressed on other occasions, or as the spontaneous suggestions of your own native intellect.

Educate is derived (not, as some think, from *educo*, *educere*, TO LEAD OUT,—but) from *educatum*, the supine of the Latin verb, *educo*, *educare*, which means literally to *foster*, to *maintain*, to *feed*,—and metaphorically, to *teach* or *instruct*.

In English, however, the word has established a just claim to a much more extended meaning. Hence, if I mistake not, we apply the term familiarly to the formation of any habit, as well as to the development and training of any member of the

body, or faculty of the mind. Nay, more, we can educate birds, beasts, and fishes; and I am not quite certain, that the empire of education does not include some districts, at least, of the vegetable kingdom. But our connexion with the subject, on the present occasion, only leads us to discuss it so far as relates to our own species.

Thus limited in extent, we define education to mean the development and training of man's faculties, so as to enable him to secure, in the highest degree, the great object of his existence. But what is that object? I affirm, without a moment's hesitation, that it is the highest happiness, of which he is capable. Were it necessary to argue this subject, it would be an easy matter to draw liberally for proof on the nature of man, the character of God, the adaptations of the external world, and the plain teaching of Revelation. If men fail to obtain happiness, therefore, it is not because God has so willed it, but because they have neglected to seek it in a proper way. On the argument of this question, however, we shall not now enter, regarding it wholly unnecessary to demonstrate so plain a proposition in the present enlightened age and community. We, therefore, dismiss the topic with this single remark, that a moment's reflection may suffice to show, that all our faculties, in their legitimate and healthy action, tend to produce happiness; and that it is only in their distorted and perverted action, that they produce misery. Now had the Divine Being not desired man's happiness, he certainly would have pursued a different course in his organization. He certainly would have given him some *one faculty*, at least, the natural tendency and healthy action of which was to produce misery. That he has not done so, is a striking proof of his benevolent design.

But, not to dwell longer on this subject, it will be sufficient for our present purpose to divide the human faculties into three classes, physical, intellectual, and moral. All of these are necessary, and each in its appropriate place equally necessary, for the perfection and happiness of our being. Were man deprived of any one of these faculties, he would be less perfect than he is, and God proportionably less honored in his creation.

The physical, or purely animal faculties, unite man immediately with earthly objects, and are designed principally for the propagation and sustenance of the race. The moral and religious faculties fit him for the higher duties of social life; but are mainly designed to prepare him for a future and better stateo f existence. The intellectual powers are intended to serve as a guide for the animal and moral faculties, so as to conduct them safely and wisely to their appropriate exercise and gratification. But, that these objects may be accomplished, it is indispensably necessary, that each faculty and class of

faculties, should be developed and trained in harmony with its true nature, and relative importance. The animal faculties must be developed in accordance with their real design, so as to secure a good physical constitution. The moral sentiments must be trained, so as to control the animal propensities, and impel the man to a faithful performance of his highest duties as a moral, intelligent, and social being—to an active and vigorous pursuit of "whatsoever things are lovely and of good report." The intellect must be educated so as to develop the perceptive and reflective faculties, that the feelings, which are all *blind impulses*, may thus be furnished with a competent guide in the path of truth, duty, and lasting enjoyment.

On the subject of physical education, it is at present unnecessary for me to dilate. Nature, like a kind parent, has implanted in the organization of youth, an almost irrepressible desire for muscular activity, which will generally prompt them to take as much exercise, as is necessary to secure a good constitution. The wild horse of the prairie needs not the whip or the spur,—the drudgery of the cart, or the tread-mill, to give him strength of muscle, agility of limb, or symmetry of form. It is undoubtedly true, that moderate exercise is necessary to develop and strengthen every organ and faculty, whether mental or corporeal, and thus to secure the priceless boon—"*mens sana in corpore sano*"—a sound mind in a sound body. But it by no means follows, that toilsome labor is necessary to that end, or even conducive thereto; or that it does not, on the contrary, enfeeble both mind and body, by the over-action, and consequent exhaustion of the vital energies. I have long been of opinion, that much of what has been said, and written, to prove, that *labor* or *toil* is necessary for the enjoyment of health and vigor, is manifestly illogical. The fallacy evidently consists in ascribing to *excessive action*, the results that are properly attributable only to *moderate exercise*. In my opinion, it will very rarely be necessary to stimulate youth to a greater exertion of the physical powers, than they will be disposed to make, under the promptings of natural impulse, if not improperly restricted. Occasional exceptions, however, there may be; and such cases should by all means receive prompt and judicious attention. But on this topic, it is unnecessary for me to expatiate; especially as my grand object, on the present occasion, is to contemplate man as an intelligent, moral agent, and, in that view, to take a hasty glance at the proper training of his intellectual and moral faculties.

Permit me to introduce, in this connection, an extract from my Inaugural Address, delivered before the Trustees of Bacon College in 1840.

On the subject of intellectual education, much has been said, and written, and considerable diversity of opinion prevails to the present day. With many, if I mistake not, it is a favorite sentiment, that children should be educated mainly, if not exclusively, in those departments of knowledge, in which they are by nature fitted to excel.

That this sentiment, by far too popular, is altogether erroneous, and of a tendency mischievous in the extreme, I hesitate not to affirm. What would be thought of a man, who should take no care of his lungs, and assign as the reason, that by nature they were weak, and predisposed to consumption; whilst, at the same time, he was lavish in his attentions to other parts of the system naturally vigorous? What would you think of a mother, who expended all her care in efforts to improve the health and strength of those children, that were by nature strong and healthy; and who, meanwhile, utterly neglected such as were feeble? Would not such conduct be universally pronounced insane and monstrous? And, yet, to my mind it appears not a whit more unnatural and absurd, than to devote all our energies to the development of those faculties in our children, which are naturally strong, to the entire neglect of such as are weak. A course of conduct directly opposite to this, is that which nature would dictate, and reason sanction.

But I have a still stronger objection to this unnatural course. Its tendency is extremely mischievous. That character is the most perfect, in which all the faculties, whether physical, intellectual, or moral, are developed harmoniously, and in due proportion. Every deviation from this balance, and harmony of all the faculties, is a blemish, and tends directly either to partial idiocy, or partial madness. Hence it will be found, that maniacs, among the educated, consist chiefly of those, whose lives have been devoted to the cultivation of a few prominent organs, whilst the others have been mainly neglected. Dr. Connolly states, that, in the Bicetre, "maniacs of the more educated classes consist almost entirely of priests, artists, painters, sculptors, poets, and musicians; while no instance, it is said, occurs of the disease in naturalists, physicians, geometricians, or chemists."

Now when we add to the foregoing considerations, the well established truth of the hereditary transmission of qualities, we will see, that the course in question is well calculated to produce, at least in a few generations, a race of idiots and maniacs. A practice, so absurd in itself, and so mischievous in its tendency, never could have obtained currency among rational beings, had they not been immersed in gross ignorance in relation to the true philosophy of mind, and its manifestations, as connected with material organs.

The Creator has given to man no redundant faculty—none that is not indispensable to the perfection of his nature, and to the attainment of his highest dignity and enjoyment. Hence, when, from any cause whatever, the harmony and balance between our various powers is destroyed,—the deformity is increased still more by strengthening those faculties, which relatively are already too strong, and neglecting to cultivate those, that are too weak. On this point, time will not permit me to enlarge.

The design of intellectual education, then, may be regarded as two-fold.

First, and mainly, to develop and strengthen the faculties educated; so that the individual may thereby be prepared to think and act for himself.

Secondly, to store the memory with useful knowledge for the purpose of practical application in the business of life.

The latter object seems to be regarded by many as the main, if not the only business of education. The former, however, is by far the most important. We may suppose a man to have treasured up in the store-house of memory all the knowledge of the universe, and yet be in a high degree uneducated. He may neither be able to form correct opinions of his own, nor to turn to any valuable account the borrowed opinions of other men. In short, he may be one who, in common phrase, possesses, "every sense but common sense." Lacking this, he is comparatively of little use in society, and, although he may be regarded by the unthinking as possessing a good education, by the wise he must ever be viewed as in reality badly educated. In reference to just such characters, how appropriate, and how expressive the remark, that "Scholars are frequently met with who are ignorant of nothing—except their own ignorance."

A store of knowledge is unquestionably good, if the possessor can make it valuable by turning it to good acconnt. But the well-balanced, and thoroughly disciplined mind, which can form correct opinions of its own, and discern clearly between what is true and false in the opinions of others, is undoubtedly far better.

To strengthen the mind, then, should be the primary, and to store it with useful knowledge the secondary object of intellectual education; a due regard meanwhile being had to the preservation of a proper balance throughout the sys em, by laboring most to strengthen those faculties, that most need to be strengthened.

Ten years have well-nigh elapsed since the foregoing views were first laid by myself before the American public; and my conviction of their truth and importance has but increased with extended observation and reflection. If they are true, it is

obvious, that it would not be an easy matter to over-estimate their practical importance. And it is equally obvious, that mnltitudes have ever labored, and do still labor under mischievous delusions on this topic.

I consider it unnecessary at present to call your attention to the particular subjects of study, that ought to be introduced into a collegiate course of education. On this item there exists a very general harmony of opinion. But, let the subjects of study, be what they may, I have uniformly maintained, both in theory and in practice, during an educational career of more than thirty years, that they should invariably be studied and taught in such manner, as to compel the student to think for himself, and exercise his reflective faculties to the best advantage.

"Nullius addictus jurare in verba magistri'"—Bound to swear in the words of no master—is a sentiment, that is sustained alike by the highest sanctions of reason and of revelation. Young persons should be invariably educated to think and investigate for themselves on all subjects—to call no man Master—to prove all things, and hold fast that which is good.

The popular system of pedagoguery, which teaches almost every subject by question and answer, is well calculated to defeat the grand object of education. By making the study a mere exercise of memory, it degrades human beings from their exalted rank, as intelligent moral agents, to that of apes and parrots. Hence it is, that among the so-called educated, we have so few original and independent thinkers,—so many apes, or servile imitators—and so many parrots, or mere repeaters of the opinions of other men.

He is not the best educated, who can repeat correct answers to the greatest number of questions on any given subject; but he whose mind has been most thoroughly disciplined, to self-dependance and close thinking. Minds thus disciplined are not compelled to rely for their opinions on authors and lexicons; but are qualified to become in matters of science, and literature, their own authors; and, in matters of philology, their own Lexicographers. To such minds alone are we indebted for our present stupendous ability to annihilate time and space, by making the steam-car our porter, and the lightning our obedient messenger. And to such alone must we still look for future, and yet more valuable acquisitions of territory in El Dorado, the golden terra incognita of discovery and invention.

When we thus contemplate the wondrous power of educated mind—when we survey the brilliant trophies of that power, with which on all hands, we find ourselves surrounded, and the magic prospect of new trophies no less brilliant, that opens up to our enraptured vision in the vista of the future, shall not

our own highly favored Commonwealth feel, that she is called upon by every ennobling consideration to act a part, that shall be worthy of her central and commanding position in this great American family of confederated Republics? Let all hearts be united—"public men and private citizens"—in this noble work, and our own loved University must flourish, and become ere long the pride of the State. In this labor of love for the benefit of humanity, all may, and should unite. All can so unite without any sacrifice of principle, or even of feeling. Literature and Science are in the highest degree, catholic in their nature and tendencies. They scorn to be appropriated exclusively to any sect in religion, or party in politics—desiring ever to remain, as God designed them to be, the common heritage of all. Let all, then, rally to their support; as patriots of every creed unite to maintain and defend our Constitutions, State and Federal, the broad ægis of whose glorious protection extends alike over the common rights of all our citizens.

But on the subject of intellectual education, the few fleeting moments, with which alone I can be indulged, on the present occasion, will not allow me expatiate.

Permit me then, fellow citizens, to call your attention very briefly, to education in its noblest form, viz., that of the moral faculties. From even a brief survey, we may readily perceive, that the education of the heart is as far superior to that of the head, as man is to the brute, or as eternity is to time. In the language of the Inaugural aforesaid: —

Did man possess no higher faculties, than those of intellect he would be at best but a reasoning brute; and the education of his intellectual powers would only capacitate him to be more extensively mischievous to the human race. How fearful the ravages, that would naturally ensue! And yet, it is most obvious, that those ravages would not be worse, nor the desolations more fearful, in the grovelling attitude of the brute, than if that attitude were exchanged for man's erect and noble form. * * * * Hence, when intellect alone is educated, and the religious faculties wholly neglected, or abused, a class of monsters is produced, which for the sake of distinction, may be called human brutes—the Napoleons, the Murrels, the Dantons, the Marats, and the Robespierres of our race, the scourge and curse of mankind—differing from actual brutes, from lions and tigers, mainly in being accountable, and in possessing superior intellect, which capacitates them to commit ravages so much the more fearful, and to spread havoc and desolation to a more alarming extent. Whereas, had the moral organization of these men been properly educated, they might have shone conspicuously among the most distinguished benefactors of the human race, might have been as immortal in honor, as they are now in infamy,

might have lived unspeakably blessed themselves, and the source of unnumbered blessings to their fellow-men.

From these reflections, it must be obvious, that, were there no hereafter, and were our highest hopes and aspirations confined to the present life—still, the grand point in education would be the proper training of the moral sentiments. Better neglect every thing else in education, than this. Nay, if this be neglected, the less intellect men have, and the less that intellect is cultivated, the better. However startling and extravagant, at first view, this sentiment may appear to some, it is but a corollary to the proposition, that lions and tigers are less mischievous and miserable in their own nature, than they would be with the superadded intellect of man. * * * * Whether, therefore, revelation be true, or untrue—whether there be, or be not a future state of rewards and punishments, such as the Bible discloses—still it is undeniably plain, that in the great business of education, even with an exclusive reference to human happiness in this life, a proper moral and religious training is the grand and all important interest, the one thing needful. But it is no less plain, that the Bible, in its doctrines and precepts, its hopes and fears, rewards and punishmenst, is the only perfect and infallible guide to the attainment of this grand object.

To the American statesman and patriot, this topic assumes an attitude of peerless importance. Our unparalleled blessings of civil and religious liberty result not so much from the form of our free institutions, as from the intelligence and virtue, which are their indispensable support. For a people like ours, human wisdom perhaps never devised a better Constitution than that which, by the blessing of Heaven, unites our great confederacy of free and sovereign States. And it is utterly vain to rely upon them for the perpetuity of our freedom, any farther than as they are sustained by the general intelligence and virtue of our citizens.

On this subject President Wayland remarks—"For beings who are willing to govern themselves by moral principle, there can be no doubt, that a government relying on moral principle is the true form of government. There is no reason why a man should be oppressed by taxation, and subjected to fear, who is willing to govern himself by the law of reciprocity. It is surely better for an intelligent and moral being to do right from his own will, than to pay another to force him to do right. And yet, as it is better, that he should do right than wrong, even though he be forced to it, it is well, that he should pay others to force him, if there be no other way of insuring his good conduct. God has eendered the blessing of freedom inseparable from moral restraint in the individual: and hence, it is vain for a people to expect to be free, unless they are first willing to be virtuous."—*Mor. Sc. p.* 355.

To which give me leave to add a short extract from the farewell address of the illustrious Washington: "Of all the dispositions and habits, which lead to political prosperity, religion and morality are indispensable supports. In vain would that man claim the tribute of patriotism, who should labor to subvert these great pillars of human happiness—these firmest props of the duties of men and citizens. The mere politician, equally with the pious man, ought to respect and to cherish them. A volume could not trace all their connexion with private and public felicity. Let it be simply asked, where is the security for property, for reputation, for life, if the sense of religious obligation desert the oaths, which are the instruments of investigation in courts of justice? And let us with caution indulge the supposition, that morality can be maintained without religion. Whatever may be conceded to the influence of refined education on minds of peculiar structure, reason and experience both forbid us to expect, that national morality can prevail in exclusion of religious principle. It is substantially true, that virtue or morality is a necessary spring of popular government. The rule indeed extends with more or less force to every species of free government. Who, that is a sincere friend to it, can look with indifference upon attempts to shake the foundation of the fabric?"

If the foregoing sentiments be true, (and in the present enlightened age, the man would be considered demented, who would seriously call their truth in question,) then, indeed, it would be difficult to over-estimate the importance of the proper education of the moral feelings.

It is in this connexion, that the superlative value of the Christian Scriptures, in the work of education, becomes almost self-evident. As well might you expect to support animal life without food, as to maintain pure and permanent morality in any community without the Bible. Compare the condition of these United States, physical, intellectual and moral, with that of Italy, Spain, or France. To what is our superiority, in everything that involves true dignity and enjoyment, to be ascribed, if not to our greater familiarity with the Bible, and our superior reverence for the teachings of that Holy Volume? In every department of education, therefore, from the nursery to the common school, the Academy, and the College—the Bible, and especially the New Testament, is of indispensable importance.

Some timid people, however, are alarmed, lest if the Scriptures be admitted into educational establishments, they will be perverted to the vile purpose of sectarianism. That they may be so perverted cannot be denied. So may every thing good and holy in the Universe. But this enlightened audience needs not to be informed, that the argument against the use, from the abuse, either actual, or possible, is a sheer sophism.

In this instance the objection overlooks the fact, that whatever belongs to the essence of Christianity is not sectarian, but catholic in its nature and tendencies. The Bible is not a sectarian, but a catholic book; and he would be wholly unworthy to be trusted with the business of education, who would even desire to pervert it to sectarian purposes. Nay, more, he would manifest a profound ignorance of the spirit and power of Christianity. The very essence of piety, under every dispensationof religion, consists in a supreme regard for the divine authority. Consequently, if any individual believes and acts religiously in a particular way, simply because I believe, and act thus, he is worshipping me, and not God; and, therefore, his religion, no matter what may be his zeal in its maintenance, possesses all the elements of idolatry. A spirit of proselytism may be, and not unfrequently is, directly opposed to a spirit of piety. It always is so opposed, when it even encourages an individual to join our Church, except so far as he is impelled thereto by an intelligent conviction of duty. The language of piety is—"Deny yourself. Call no man, Master. Prove all things. Hold fast that which is good." The language of Proselytism is—Go with me, and I will show you a lucrative, an easy, or a fashionable road to Heaven.

Impress upon the minds of men a supreme and self-sacrificing regard to the divine authority, as absolutely indispensable to the enjoyment of the divine favor, and you have done all that man can do to preserve them from a sectarian spirit.

If the foregoing views be not wholly erroneous, it is manifest, that every system of education, which does not regard Christianity, as the one thing needful, is radically defective, and pernicious in its tendency. The Scriptures alone "are able to make men wise unto salvation"—to conduct them to the perfection of their being—to the highest attainable dignity and happiness of this world, and to the glory inconceivable and everlasting in the world to come.

Every seminary of education, therefore, should be conducted with an abiding regard for the paramount authority of the Christian Scriptures. The evidences, that Christianity is from God, should be thoroughly examined, and taught. Its morality also, and its motives, its precepts and its promises, should be habitually and distinctly impressed upon the minds of the students. Reading the Scriptures and prayer, should form a part of the daily exercises. There is nothing sectarian in all this; and in much more, that might be specified. At the same time, enlightened piety, no less than common prudence, will require the teacher in even a private school, and still more in a public seminary, to abstain from the official inculcation of sectarian peculiarities.

I rejoice to think, that the correctness of these views is now generally admitted. Even in Girard College,—into the precincts of which no ecclesiastic can ever be admitted without a violation of the will of the founder—the Trustees have recognized, in the management of the Institution, the soundness of the foregoing principles. In this they have acted wisely, for no seminary of learning can flourish—none ought to flourish—that aids in propagating the miserable delusion, that the proper training of the moral sentiments, is not the chief business of education; or that this training can be successfully conducted, except in harmony with the sublime, the heavenly precepts and principles of the Christian religion.

Towards the close of the last century, in the most literary and polished nation then in existence, an attempt was made to dispense with the Bible. With what success, let the appalling scenes of the "Reign of Terror," which baptized Paris in the best blood of her citizens, bear witness. Forewarned, it would indicate a most extraordinary lack of common prudence not to avoid a rock, on which others have so fearfully made shipwreck.

Fellow citizens, you see the high and holy work, that lies before us. The occasion is auspicious. To-day we celebrate the seventy-fourth anniversary of American Independence. Natives of America, not a few, still live, who were born under the British yoke; others, more numerous, who heard the roar of hostile cannon; and some, who were even old enough to take part, at least, in the closing scenes of the revolutionary struggle. In this short period of three score years and fourteen, how marvellous the change. Thirteen feeble colonies, bravely contending for their rights, in an unequal, and almost hopeless contest with the colossal power of Great Britain, have grown into a gigantic confederacy of thirty free and sovereign States, the hope and admiration of the world. A population of three millions has increased more than seven fold. Our cultivated territory, which was then confined to a narrow belt on the Atlantic slope, now extends from the Rio Grande to the Great Lakes, and from the Atlantic to the Pacific. On all sides flourishing towns, villages, and cities spring into existence, as if by magic; whilst the landscape is dotted with fair temples of religion and science, to cheer the eye, enlighten the mind, and purify, ennoble, and gladden the heart. The swelling tide of population carrying on its heaving bosom Anglo-Saxon arts, enterprise, and civilization, has dashed its ocean billows against the firm base of the Alleghenies—heaved its foaming surges over their cloud-capt summits—inundated and fertilized the illimitable domain of the Father of Waters—and rolling on, still on, in its resistless course, across the Great Desert, over to the Rocky Mountains, through Utah's boundless

plains, and over Nevada's snowy heights, has at length discharged its impetuous floods into the startled Pacific. The sluggish waters of this vast ocean, with its unnumbered islands, have been lashed into unwonted activity; and the "Golden Gates" of Ophir have been re-opened to a commerce that must ere long become such as earth never saw,—whose electric currents, encircling the globe, and penetrating even to the inmost recesses of the "celestial empire," are destined to galvanize into new life its torpid millions. May we not well exclaim—"What hath God wrought." "Happy is that people, whose God is the Lord."

Fellow citizens, no other people was ever blessed as we are in these United States. But let us never forget, that our obligations are commensurate with our blessings. The hopes of down-trodden and degraded humanity, under God, centre in us. Heaven has, no doubt, raised up this American Israel for sublime purposes of good to the human race. Who can doubt, that a glorious day, by prophets long foretold, is about to dawn upon the world. Who can doubt, that the regeneration of degraded humanity devolves mainly upon us; and that we may lawfully aspire to the peerless honors of the God-like enterprise. Who can estimate our powers for the accomplishment of this noble work. When our territory on the Pacific shall have been filled up with such a population as is even now found in the Atlantic and Valley States—such a population, as our Institutions alone have made, and can make—when the gold of Ophir shall have been poured into the treasury of that people, and their power been infinitely increased by the progress of arts and sciences, literature and Christianity—of railroads, electric telegraphs, and steamships—if we are but true to ourselves, and to our exalted position, what may we not accomplish for the regeneration of the world, even before the close of the present century.

But, if we would prove worthy of our high calling, literary, political, and religious, and thus be true to ourselves, and to the best interests of humanity, we must labor to maintain and perpetuate our glorious Institutions, not by hollow professions of attachment, but by cultivating to the utmost of our ability, that intelligence and virtue, which are their indispensable support.

Let the heartless, selfish demagogue, for the gratification of an ignoble ambition, flatter the "dear people" with the hypocritical profession of a patriotism, which he never felt. But let every true American heart, every real patriot, prove his faith by his works—demonstrate the reality of his patriotism, by practising, and promoting, as best he may, that righteousness, which "exalteth a nation," and fleeing from that sin, which "is a reproach to any people." Let the moral and

intellectual culture of our citizens, especially of the rising generation, receive a proper attention, and we may reasonably anticipate a destiny truly sublime—sublime in the perpetuity and progress of our unrivalled Institutions—sublime in the univeral overthrow of despotism, whether civil or religious—and sublime especially in the introduction of that prophetic age, when "they shall beat their swords into plowshares, and their spears into pruning-hooks." When "nation shall not lift up sword against nation; neither shall they learn war any more."

"O house of Jacob, come ye, and let us walk in the light of the Lord."

ART. III.---THE SIGN-LANGUAUGE OF THE PRAIRIE INDIANS.

An account of the language of signs in use among the roving tribes of Indians who inhabit the great plains between our western frontier and the Rocky Mountains, I have thought might interest some of the readers of the Western Journal; and, I have, accordingly, drawn up the following sketch from personal observation during the summer of 1849, and the spring of 1850.

The Arapahoes, Cheyennes, Kiawas, Comanches and other wandering tribes, have in use among them a system of sign-language which is so perfect that they are able to converse in it with a facility almost beyond belief to one who has never seen it used. I have seen conversations carried on between two men, (who would not have understood one word of the spoken language of either,) for two hours at a time, without one word being pronounced—these signs being used instead of oral language—and from what could be gathered from the signs used, and from the coherent and intelligible explanations they gave of the conversations afterward, I was assured that the *actors* understood each other almost as well as if each had been listening to his mother tongue.

As might be expected of a system originated, as this has been, among a people in a state of nature, it is simple and inartificial, each sign having generally a very clear reference to the thing spoken of, and this simplicity facilitates the acquisition of its use so much that it requires but a short time to acquire it. But notwithstanding the fact that it is simple and inartificial, it is not so deficient in scope and fullness as would at first be supposed, for I have been assured, by traders who have lived for years among them, that in a year's residence

among them, a man would hardly be under the necessity of speaking a word, except the name of a tribe, a river or something of that kind, provided he was well skilled in this sign-language.

The following will illustrate the connection between the signs used and the thing referred to:

Sleep or night are indicated by letting the head fall on the hand on one side, with the eyes shut, and each time the head is inclined indicates a night.

Time of day, by pointing to the place of the Sun's rising and then moving the hand round to the point the Sun occupies at the hour they wish to indicate.

Speaking, by raising the back of the hand to the mouth with one or two fingers pointing forward, the lips then move as in talking and the hand is advanced.

A horse is meant when the hands are raised to each side of the head with the palms forward, and then moved backward and forward like the movements of the forefeet of a horse in galloping.

Riding is understood when the forefinger and middle finger of the right hand are straddled across the forefinger of the left hand, and then the sign for a horse is made.

Killing a man is shown by running the finger round the crown of the head as if in taking off a scalp.

Water to drink, is indicated by moving the hand as if pouring something into the mouth.

Coffee, by the same process, with the addition of rubbing the back of the left hand with two fingers of the right. This I am told means literally *blackwater*.

Whiskey is wanted when they close all of the hand except the thumb and forefinger, which are opened as if holding a glass, when the hand is moved as if turning up a cup to drink.

Many more might be given, but these are considered sufficient for the present.

One evening an Indian came to the camp and asked in signs for something to eat, and when he had satisfied his appetite, a Mexican of our party commenced a conversation with him in their signs, and for more than an hour it was kept up without a word being spoken except the names of the tribes of Indians they spoke of, or the word Americano, when speaking of white men.

Any one who knows anything of Indian dialects is aware that they contain many more difficult sounds than European languages, and that almost all of them are so curiously constructed as to require near a lifetime to learn to speak one of them at all correctly, and this may account for the adoption of such a system or language as this, instead of selecting one of their dialects to become the common language of all, but

we cannot but be surprised at finding among the untutored savages of the desert, such a monument of patience and ingenuity. While learned and polished Europeans can hardly leave their own firesides without being compelled to learn another language in which to make known their simplest wants, the homeless wanderer of the American desert finds his mute language understood by every tribe he meets, from Texas to British America.

SAINT LOUIS, DEC. 12, 1850.

ARTICLE IV.—ROUTE TO SANTA FE, COUNCIL GROVE, &c.

We are indebted to Geo. C. Sibley, Esq., of St. Charles County, Mo., for a copy of the Report of the Commissioners, appointed by the President of the United States, under an Act of Congress, approved 3d March, 1825, authorizing a road to be marked out from the Western frontier of Missouri to the confines of New Mexico. This report abounds with many facts that would doubtless be interesting to our readers; but as they are interwoven with the details connected with the execution of the commission, we have only selected a few of those which appear worthy of being preserved as proper matter for the historian.

The following note, by Mr. Sibley, at the end of the report, is highly worthy of preservation:

BIG JOHN'S SPRING—COUNCIL GROVE—DIAMOND OF THE PLAIN.

It will be none amiss to write a word of explanation here, about the original christening or naming of those three famous places, so well known on the "Santa Fe road."

And first as to Council Grove—It was here that the Mexican Road Commissioners, with their train of forty men, Surveyors, Secretary, Interpretors, Hunters, Guard, &c., met the chiefs and head men of the Osages in Council, (agreeably to previous arrangement) and concluded and signed a treaty securing the right of way and permanent use of the road through the territory claimed by those tribes. After the completion of this formality, and the Indians had departed perfectly content, (August 12, 1825) it was suggested by G. C. S. to have the name of the place, as inserted in the treaty, carved in large and legible characters on the trunk of a venerable White Oak tree that stood and flourished near the entrance of our council tent, and also to add the date and distance from Fort Osage. Colonels Reeves and Mather readily assented,

and Capt. S. Cooper was directed to have it promptly executed. Capt. C. employed a young man of the party known to be remarkably expert in *lettering* with his pen knife and tomahawk, by name John Walker, commonly called in camp "*Big John*," in reference to his gigantic size, who executed the order very neatly and substantially—thus "Council Grove" came to be the name and designation of the place. These particulars are here written for the more particular purpose of prefacing the following correction of a silly romancing story palmed as a good joke I suppose, upon some ignorant credulous traveler; to the affect that "Council Grove" has been from time immemorial, the name of the place—that the ground for miles around was sacred to peace, and for ages has been the general resort of the Indian tribes far and wide: there, to meet in grand council, smoke the calumet, settle their disputes, bury the tomahawk, and establish peace and harmony. In the Sandy Prairie adjacent to "The Grove," there are innumerable hillocks, thrown up by the gophers and large ants — these were pointed out to our credulous traveler, who was evidently all agape for wonders, as the graves of those who, from age to age, had died while attending council here, and had been deposited in this sacred neutral refuge—or, which is quite probable, the gentleman required but a bare hint from those who were quizzing him, to convert those ant and gophir hills into the graves of mighty chiefs and warriors, and so record it in his Journal. Our traveler first published his Fancy Sketch, or rather Description and History of "Council Grove," in an Evansville paper, as I remember: the thing was prettily written, and its romantic character took the public fancy right well, and passed pretty extensively through the papers of the day: and for aught that I know, may by this time have found its way into some of the flimsy book literature that now floods the land. Such is the substance of the false and delusive tale that has been circulated and doubtless by many believed, concerning the "Council Grove." It ought to have been corrected promptly; and I take the blame to myself for not doing it long ago. My repugnance to "*appearing in the papers*" I suppose, prevented me at the most proper time; and subsequently it passed from my mind and was forgotten. I am well aware that in this very way many false and foolish, and sometimes injurious statements, are palmed off upon the public and the reading world at large, in relation to the Indians and the Indian country. As a general truth it may be said, that the public mind has been sadly misled and *indelibly prejudiced* on this very interesting subject—much to the injury of the poor devoted Indians. The story I have alluded to can never *harm* the Indians certainly, and is innocent, I presume, of any consciousness in the publisher, of any thing wrong

whatever. But it surely *is* wrong even thus to mislead the public about a locality and name: because the error is sure to be interwoven into some future "authentic history" of our western Indians, &c. There is quite enough of this intolerable sort of nonsense already on our bookshelves: the tendency of which has been to deprive our history, geography, &c., of the true designations, and their origin, of the rivers, mountains, prairies, and noted places, such as mounds, (Barrows as they are called,) lakes, &c., that abound on our continent; and had their appropriate names long before the white man found his adventurous way hither.

The date, origin and circumstances of the name "Council Grove" are precisely as I have stated them—previously to that date no Indian or any other Council had ever been held there. The place never had been used particularly, for resort even by the Osages, much less by any other tribes. Not a single Indian grave exists there, or within many miles of the place. The venerable, sacred character with which it has been invested, is all a fiction—not one word of truth about it. It is quite a pretty place, and would afford some dozen or two of small farms up and down the creek from our Council Oak.

"Big John" Walker first discovered the remarkably fine spring that bears his name. He was one of a small party that accompanied me in the summer of 1827 for the purpose of correcting the previous survey of the road, and to mark it where necessary by heavy mounds of sod, &c.

Walker found the spring on the 13th of June, 1827, brought me some of the water (our camp was near by) and asked me what name it should have. I directed to cut in large letters "Big John's Spring" on a Big Oak that grows near it. He laughed, and with his knife and hatchet soon performed the work in excellent style. This Spring is on Gravel Creek, short of two miles easterly from Council Grove. It was discovered on my return from my correcting tour, after we had been *sixteen miles* beyond the Grove.

The Diamond of the Plain. This *treasure* was, in fact, discovered first by "Old Ben Jones," a hunter of our first party, on the 11th August, 1825. It is thus noted in my "Pencil Sketches," at the time. "This Spring gushes out from the "head of a hollow in the prairie, and runs off boldly among "clean stones into Otter Creek, a short distance—it is very "large, perfectly accessible, and furnishes the greatest abun- "dance of most excellent, clear, *cold* water—enough to supply "an army. There is a fountain, inferior to this, in the Arabi- "an Desert, known as "The Diamond of the Desert." This "magnificent Spring may, with at least equal propriety, be "called *The Diamond of the Plain*. We found it a most ex- "cellent camping place. A fine Elm tree grows near to and

overhangs the Spring." On the 10th and 11th June, 1827, I encamped here with my party (as above noted)—during our stay I made requisition of "Big John" and his carving implements once more, to inscribe on the stooping Elm "Diamond of the Plain"—which was promptly done—the tree has since been cut away I believe. The fountain is now generally known as "The Diamond Spring. GEO. C. SIBLEY.
April 1, 1839.

The commissioners were Geo. C. Sibley, B. H. Reeves, and Thomas Mather. They set out from Osage on the 17th of July, 1825, and arrived at the boundary line between the United States and Mexico, on the 11th of September, where they expected to meet commissioners from Mexico; but as none appeared, and, having no authority to proceed with the survey through the Mexican territory it was agreed by the commissioners that Mr. Sibley should proceed to Santa Fe with a small party, and that the other commissioners should return to Missouri. The parties separated on the 22d September; and Mr. Sibley arrived at San Fernando on the 30th October. But it was not until the 16th of June, 1826, that he received any authority from the Mexican Government to act in the premises; and this only authorised him to examine a route, prohibiting him from marking,or cutting out a road,or, establishing any work whatever. On the 20th August, 1824, Mr. Sibly commenced a survey at San Fernando, and run it through the Mexican territory, connecting it with the survey made by the commissioners, the preceding year, east of the Mexican boundary. Mr. Sibley reached Missouri in the fall of 1826, but returned to the plains again in the spring of 1827, for the purpose of making corrections in the survey east of the Mexican boundary.

The Report contains a table of distances between more than fifty points on the route, from which we have selected a few of the more prominent. The table commences at Fort Osage, 15 miles below Independence, thence to the western boundary of the State, Latitude, 38 deg. 54 min., longitude, 94 deg. 17 min., 31 miles; to Council Grove, latitude, 38 deg. 40 min., longitude, 96 deg. 12 min.—139 miles; to Diamond Spring, 155 miles; Nee-o-zho Cr. (Cotton Wood Fork,) 185 miles; Turkey Creek, 209; Little Arkansas, 225 miles; Arkansas river, lat., 38 deg. 11 min., long., 98 deg., 259 miles; Walnut Creek (north bend of the Arkansas river,), lat., 38° 21', 269 miles; south bend of Arkansas river, at Mulberry Creek, lat., 37° 38'; United States and Mexican boundary, lat., 37 deg. 47 min., lon., 100 deg., 385 miles; crossing of the Arkansas, 424 miles; Choteau's Island, 444 miles; Lower Semeron Spring, 477 miles; Middle Semaron Spring, 514 miles; Upper Semaron Spring, 553 miles; Rabbit Ear's Creek

and Mountain, lat., 36 deg. 40 min., 602 miles; Pi'ot Mountain, 617 miles; Point of Rocks, 647 miles; Canadian river, (ford) 668 miles; Foot of Great Mountain Range, 710 miles; Summit of dividing ridge, 727 miles; San Fernando, (valley of Taos) 745 miles; Santa Fe, lat., 35 deg. 41 min., 810 miles, or 795 miles from Independence, Missouri.

We insert from the London Agricultural Gazette, the following and succeeding lectures on Scientific and Practical Agriculture, which, from the simplicity of the language in which they are expressed, and their general utility to the farmer, we trust will be acceptable to a large proportion of our readers:

ART. V.—AMERICAN AGRICULTURE, No. 1.

The soil and the air, in connexion with agriculture, have no immediate bearing upon their daily pursuits; and whether the influences which thus affect the practice of the farmers be capable of satisfactory explanation or not, the practice and profit of their own individual occupations will remain precisely as they hitherto have been—undisturbed by those particular truths which our subject includes. This subject, however, I am persuaded, is not the less appropriate on that account for general consideration. It is one of general interest, not only because the air we all breathe and the soil we all tread cannot, but in some measure, affect us all alike, but because the usefulness of knowledge of this, as on every other subject, is not measurable by the pounds-shillings-and-pence scale, which would confine it to those cases exclusively where a money result depends upon the possession of it. There is a usefulness besides that which immediate profit measures; and though the agriculturist should not, and others could not, earn the more because they know the more of the air and the soil in connection with the art of cultivation, yet such knowledge is beneficial to all as well as an addition to mental if not to material wealth—as food for the mind, which, like the body, can live only by appropriate nourishment—as matter for pleasurable thought, from which, as from all other topics, we may usefully draw the unfailing inference regarding the wisdom, skill and power, and goodness which creation everywhere exhibits.

But if the soil and the air, in connection with agriculture, may reasonably claim the attention of all, it seems to force itself upon that of the farmer, and it is in that aspect of the subject, almost exclusively, in which it appears to him, that I

have now to ask your attention. It certainly must have sometimes occurred to those who cultivate the ground and superintend the growth of crops, to ask where these crops all come from. Do you think that they come out of the land—from the soil on which they grow? Let us just consider this question in detail. Take the case of a forest of trees. Did all that wood come out of the soil? Suppose a man to plant an acorn in a piece of clay land and watch its growth. He sees the shoot and the young tree increasing in size, and if he should live long enough, he would ultimately see the old tree with its trunk, its branches, and its twigs, containing perhaps 40 or 50 tons' weight of wood—a result of the life which was resident in that little acorn. Where did it get that wood? The roots of the oak grow downwards in the earth to a great depth—do they find its woody matter there? They also spread on the surface to some extent, but do you think that there is enough of the woody charcoally matter there to furnish the material of that great tree? It was a poor clay when the acorn was planted, and no one has been near the place since to supply the growing plant with the matter it wanted. We may suppose the tree to have stood in a forest near which no dung cart ever went, so that no supply of food for the plant could have reached it beyond what existed when the seed was planted, and then the soil was very poor, and contained none of the material which has since appeared in the stem and leaves, and branches of that great tree. How did they obtain it? The thing certainly appears difficult of explanation.

Take the case, too, of any of our common crops—of our grass lands, for instance. Let us imagine the case of a dairy farm of 100 acres; we may suppose it to be able to maintain a herd of 30 cows. What will such a farm produce in a year? Suppose it to be good land, able to keep a stock of good sort. Perhaps I shall not be far wrong if I put the produce of a cow at something like 3 1-2 cwt. of cheese, and 30 or 40 lbs. of whey butter every year; and besides this, there may be some bacon made from the waste of a dairy farm of 100 acres; we may suppose it to maintain a herd of thirty cows. What will such a farm produce in a year? Suppose it to be good land, able to keep a stock of good sort. Perhaps I shall not be far wrong if I put the produce of a cow at something like 3 1-2 cwt. of cheese, and 30 or 40 lbs of whey butter every year; and besides this, there may be some bacon made from the waste of the dairy. Well, then, a farm of thirty dairy cows will yield nearly five tons of cheese, and eight cwt. of butter in the year, besides this bacon. That quantity of butter and cheese are exported annually from that extent of grass land. Now, where did that butter and cheese come from? Have they been made out of the subtance of the cows? They are

as heavy now as they were. It has not been made at the expense of the cows,—any more, indeed, than the wheat or the barley, which comes from the threshing machine, is made at the expense of the machine. The cows are merely the machines by which the cheese is made out of the food they eat, and just as the wheat is in the rick that is being threshed, so the cheese resides in the grass that is being eaten. Well, then, where does the grass get it? From the soil, do you think? Just consider; take a hundred years—what has been added to the soil of that farm during that period? Hardly anything; the farmer may perhaps have bought some bran and some meal every season for the pigs; but then he has sold the bacon made by his purchases, so that the farm has lost as much as it has gained, in that respect. He has bought no manure. It will not do to say the farm continues to yield the grass because of the manure that is added, for none has been added to the farm, none has been brought on the farm. Manure has, no doubt, been added to the fields, but none has been imported from without the farm, and yet, five tons of cheese have been exported every year; and how has that great draught upon the farm been maintained without loss? The manure that is applied to the field helps the grass greatly; but it cannot supply the cheese I speak of; for you must acknowledge that the manure is just what remains of the grass after the cows have taken the butter and cheese out of it, so that every year, the land is robbed of so much cheese; that is, if the cheese be in the soil. But can you believe that it is? Can you believe that every year, the soil of this farm is the poorer by five tons of cheese than it was? Why, how long has it stood this waste? If we suppose that it has been yielding at that rate during 1,000 years, there must have been 5,000 tons of cheese in the soil of that farm—50 tons of cheese in every acre of it, at the beginning, and if anything, the farm is more fertile now than it was then—fuller of cheese, no doubt, than ever; so that for all we know, there must be thousands upon thousands of tons of cheese in it still. Ah! but that explanation cannot stand; we cannot believe that the wood of our trees, nor the cheese, or the butter of our dairy farms comes out of the soil. Where do they come from then?

Now, before attempting to answer this question, let us take the case of an arable farm. Suppose we take our own, at ——, for instance. It contains about 270 acres of land—off 120 or 130 acres of it every year, we cut a crop of wheat, which may average from 32 to 36 bushels of wheat per acre; and besides these, 4,500 or 4,600 bushels of wheat, we sell annually, probaby, ten or eleven tons' weight of beef, mutton, and bacon; that is, the animals we sell off, are, on the whole, heavier by that weight than they were when brought on. We buy

some 100 or 200 bags of meal and linseed as food for the live stock every year, so that much is added to the soil every year, and that may account for 500 or 600 bushels of wheat we sell off; but where do we get the 4,000, and where does all the beef and mutton that we sell come from? It will not do to say it comes from the manure; for set a watch on the entrance gate of the farm, and count what goes in and what comes out of it in a year; hardly any manure goes in, and you will find that 4,000 bushels of grain go off the farm in a year, and you will find that ten or eleven tons' weight of meat go off the farm more than comes on it in the year. Where does all that food come from? The question is, whether or not it can be supposed to come from the soil.

During the past ten years, we must have sent off the farm 30,000 or 40,000 bushels of wheat, and a hundred tons of meat. I take our own case, as it is the only one I am perfectly acquainted with; but any cultivator of the soil, will, if he looks back a few years, have to acknowledge the same remarkable truths in the case of his own farm. Do you think that all that bread and beef came out of the land? Why, the land is better and richer after all that has been taken out of it than it was before; and if it be kept in cultivation for years to come, it may yield hundreds of thousands of bushels of wheat yet; they are not there now most certainly — where will they come from? Neither the wood of our trees, nor the dairy produce of our grass lands, nor the grain and meat of our arable lands, can be supposed to come from the soil. If all the wheat, oats, rye, barley, beans, peas, bacon, butter, cheese, beef, mutton, and so on, that England has produced since it was first cultivated, were piled upon the land now, it would be more than a foot deep over the whole island. Deeper than the soil itself is, on the average, over the country. And should things remain as they are for another 1,000 years, the land will have yielded another such lot; that is, more food in point of bulk and of weight, than the soil itself actually is. Where has it, where will it come from? That is the question.

our globe must therefore be gaining in size

If so what will become of its present [illegible] to the other bodies

From the "Agriculturist."

VILLAGE LECTURES, No. 2.

A plant is made up of roots, and a stem which carries leaves. It does not live in the soil only—the greater part of it lives in the air. Almost the whole of the plant above ground is covered with pores, little holes in its skin through which it absorbs, sucks in food. Only the *extremeties* of the roots have these pores by which they can absorb nourishment. No doubt the

roots do take in water from the soil, and along with it they will take in whatever the water has dissolved in it. But then, if you examine this water, you will find very little of the matter of wood, or of cheese, or of corn, or of meat, dissolved in it. The water which comes from our drains, and which is such as the roots of plants suck up, is indeed apparently clear and quite pure, very good water to drink, but none of us would get fat upon it if that were all we had to live upon. Neither, you may depend upon it, will a tree nor a plant get stouter and grow if that be all that it has to live upon. The soil contains quite as much vegetable matter at the end of a rotation of crops as it does at the beginning; it contains a great deal *more* vegetable matter after a forest of trees has been grown out of it than it did when the acorns were planted; therefore, all this matter could not have been got out of the land—the water could not have dissolved all this matter out of the earth and furnished it to the roots of plants, so that they might suck it up and flourish upon it. No. The great bulk of every plant that grows enters it—not by the roots from the earth, but by the leaves from the air. It is the air, and the sunshine and the rain water, not the mineral matter of the soil, that make our trees shoot, our turnips swell, and our wheat and grain crops ripen their seed.

But before entering upon the argument by which I have to prove this, I may as well just refer to the idea which some people may have that a plant changes the matter of the soil on which it feeds into its own substance. It cannot do this; it cannot make one thing into another. It must have the right things given to it or it cannot grow; too much of one thing will not make up for the absence of another. Unless a mason be provided with the wood and the bricks and the mortar, he cannot build the house; and neither can a plant build its own structure up unless it be provided with the right things in the right quantity. The mason might have abundance of bricks; but if he had that alone he could not proceed; he could not make every thing he wanted out of an abundance of only one of them. And just so with plants; you must not think that they can make the wood, nor the seed, nor the leaves, nor the root, out of the earth of the soil. They have no power to make one thing into another; they can only make wood of the matter of wood; leaves out of the matter of leaves; seed out of the matter of seed.

It is quite consistent with what is known, to say, that when the world was created, only sixty or seventy different kinds of particles or atoms, and a certain number of each sort were called into being; and that though they were put together in so many different forms, and though as time passes some of these substances thus formed are continually being taken to

pieces, as it were, and decomposed, and others are being built up of the pieces, yet, the world is made of just the same number of each kind of particles or atoms; the same number of pieces of each kind now, as it was 6,000 years ago. It is consistent, I say, with what is known, to suppose that not one particle has been created since—not one since been converted into another. Each is as it was when originally called into being, and though not in the same place now, nor united with the same companions now as it was then, yet it is the same particle, possessed of the same shape, size and weight, and endowed with the same properties.

Now, these particles are perfectly distinguishable and perfectly recognisable, but I cannot go through the process just now by which the individuality and proper distinct character and existence of each is proved, and therefore you must be content to believe me when I say that the soil contains comparatively few of those particles which go to make the bulk of a tree, or the substance of butter, of cheese, of wheat, or of meat—that it positively contains more of them every year under good farming, notwithstanding that butter and cheese, and wheat and meat, are every year being sent off it to market, and that, as neither a plant, nor any thing else can change one thing into another, the matter of wood, or of one different agricultural product not being in the soil in sufficient quantity, it cannot come out of the soil in sufficient quantity to form the building material of the trees and plants that grow upon the land. The great bulk of each came not from the soil but the air.

You will see, by-and-bye, notwithstanding that it is quite consistent with this statement, that the farmer should cultivate and manure the land to make his plants grow; for, although the soil does not supply the plant with much of its subsistence, yet it provides something which is necessary to it and without which the plant could not live. If the ploughing and harrowing and manuring were of no use to the crop, of course, no one would go to any expense in cultivation. If the air provided all the food that plants needed, people would not labor at their gardens; they would just sow their seed, and then pray for the wind to blow and the rain to fall, and the sun to shine, till the crop was ripe; then, indeed, they might have to wake up for harvest time. But it has been so arranged that plants require our labor both at seedtime and harvest, and all the season through, in order that they may yield their utmost; and thus, employment, as well as food, is provided for man.

Now let us return to the case of one tree. We have proved that its substance did not come from the soil; for the matter of wood is not in the soil in quantity enough, and the plant cannot change one thing into another—and as air is the only

other thing that the plant has access to, the inference is, that it must get its substance thence. Well, but you will say, "If the wood is not in the soil it certainly is not in the air. There is nothing solid or substantial in air like the matter of wood must be." I think I can prove to you that there is something like the matter of wood in the air, nevertheless. Suppose that you cut down that tree, which you say could not have come out of the air, and set fire to it and leave it for a little while—on your return you will find that it has gone—that is, that it has burned up. Where has it gone to? If it never was in the air before it is in the air now, for certain; and the clear air into which it has been converted will go to furnish the matter of wood to other trees which are still growing. The tree did not all disappear, however. It left some ashes behind it. Well, the ashes of the tree are what it got from the soil, and they are thus returned to it; and whatever of the tree will burn or rot away back into the air, just goes to the place from whence it originally came.

Plants make their growth by food from the mineral kingdom, which includes the air; and animals by food from the vegetable kingdom; but there is constantly this compensating process going on, that every plant and every animal that lives, eventually dies, and each gives back to the sources from whence it was obtained, the matter of which it is made. I suppose that all the plants on the surface of the globe now, if weighed, would not be heavier nor lighter than the vegetable covering in which the earth was clothed 5,000 years ago; and I dare say that the quantity of animal matter now in life is not greater nor less than the quantity which lived in any other year since the world was fully peopled. The plants take food from the earth and the air, and grow and feed animals, and these die and return to the dust, furnishing the earthly part back to the soil from whence it came, and the combustible part back to the air from whence it came. You can imagine a farm which should be a little world by itself—large enough to maintain a family—it should provide the materials for their cottage and food for themselves; and wheat enough should grow upon it, and sheep and cattle, and flax and grass should flourish there; so that woolen cloth and linen and beef and mutton and bread might all be made from it; and thus this family need never leave this bit of land, and it would, as I said, be a little world by itself.

Now the soil furnishes its portion; that is, their ashes, to the grass on which the cows feed—and to the stems of the flax and to the wool of the sheep and to the food of the people; but there is no fear of its being ultimately impoverished by this—for it gets it all back again very soon, for the cattle are killed and the men die—and the plants wither and the ashes of all are

returned to the land whence they came—and the fuel is burned, and the dunghill rots away in the ground, and thus all the part which was obtained from the air is returned also to it. There is no difficulty now in conceiving of such a farm as this yielding so many tons of cheese or so many bushels of wheat every year without suffering. We know that this did not all come out of the soil, so as for us to be obliged to believe that there are hundreds of tons of cheese or of wood or of wheat all in the soil now to furnish future crops; and we know that it did not *all* come from the air, so as for us to be obliged to believe that there is the matter of all the crops that shall be harvested, and all the timber that shall be cut to the end of time, now existing in the air ready to be used year by year as time passes. What we now know is this—that every year the soil contributes what may be called the mineral part of our crops—their ashes, in fact, if they were burned—and littte else; and the air contributes almost all of the woody part of them—what would disappear if they were burned; and each in the course of a very few years receives back again to itself whatever each had given, ready to be used over again to make new crops and new produce—new food to feed another race of men.

In the case of the farm that yielded the five tons of cheese every year—it does not loose five tons of the cheesy part of the soil annually; the soil has no cheesy part to loose—all that it loses is just such a quantity of earth as the ashes of these five tons of cheese would amount to if they were burned. What quantity of ashes would be left by five tons of cheese if they were burned? A very few pounds—and that is all the farm looses every year. Certainly it is not the common sand of the soil that exists in the cheese, but it is a part of the earth of the soil that is sent off with the cheese, nevertheless; a very small portion, however, and one which the soil could loose every year for a very long time indeed without being any the worse for it. I burned a ten-pound mangold wurtzel the other day, and here are all that remained of it; these ashes weigh about an ounce, all the rest of this root comes from the air, and it has all gone back to the air from which it came.

ART. VI.—OSAGE ORANGE.

We are pleased to learn that a plant has been discovered that promises to become a strong and durable live fence. If, indeed, the Osage Orange should be found to possess all the qualities attributed to it, the advantages which it will afford to the great prairie region of the West, will remove one of the principal objections to its settlement.

But the utility of the Osage Orange is not confined to the

purposes of fencing — we are authorised to state, on what we deem reliable authority, that its foliage is the best food known for the silk worm. And, if it should be extensiveiy cultivated as a hedge, it may be the means of introducing a new branch of industry in the Valley of the Mississippi.

In connection with this subject, we beg to mention to our patrons that Mr. M. Young, of Jerseyville, Illinois, has an extensive nursery of the Osage Orange, which he has cultivated for sale, and can supply a large demand the present season.

[From the Morgan (Ill) Journal.

"It was once thought that the difficulty of procuring material for fencing the vast and almost boundless prairies of this and some other of the Western States would retard their growth and settlement for a great many years; and there are many persons, even now, when the prairies are teeming with thousands of busy agriculturalists, who hesitate to locate upon our "ready cleared farms," on account of the difficulty of fencing them. Notwithstanding this difficulty, however, the prairies are rapidly filling up; and their owners have generally succeeded in paying by their products for expensive fences, long before the settler in a timber country could have made a respectable clearing. Even where it has been necessary to purchase rails, and bring them from a distance, it has still been profitable, compared with the laborious and tedious enterprise of "clearing" a farm in the forest.

As a matter of course, all sorts of devices have been tried to reduce the cost of prairie fences. At one time, ditching and banking were in vogue; and expensive machinery was constructed for cutting ditches and building mud banks, which certainly did their office admirably. But the ditches and banks did not. The earth of which they were made was scarcely more tenacious than sand; and the rain soon washed the banks back into the ditches from whence they came. Various kinds of hedges were tried, which did but little better; and many persons have now concluded that the only way to renew their fences economically, is to raise them upon the soil, which they can do from the black Locust in about fifteen years. It is now certain, however, that it is possible to enclose the prairie farms with a fence exactly adapted to them—cheap, certain, of quick growth, and of endless endurance. *We allude to the Osage Orange hedge.* On this subject, we have been much disposed to doubt. But having recently examined hedges of this kind, in all stages of growth, together with the mode of cultivating them—preparing the seed, planting, re-planting, trimming, &c.—we are satisfied that no more perfect protection against *all sorts of animals* can be found than these hedges. We deem the subject of sufficient impor-

tance to justify us in giving a full account of what we saw and learned on a recent visit to the grounds of Prof. Turner, near town.

Prof. Turner has several acres of the young plants, which have been raised from the seed this year. They present their polished green leaves in long rows, some ten inches apart, and about fifteen inches high. A large portion of the plants are as even, and as equal in growth as if they had been trimmed; while, in another part of the field, they are irregular and uneven throughout. This difference depended wholly on the peculiar preparation of the seed to which a part of them were submitted. And Prof. T. assured us that his method of treating the seed insured not only *regularity* among the plants, but made their vegetation almost absolutely certain. The difference between the plants from the prepared and the unprepared seed was so manifest as to attract the attention of the most casual observer.

We saw a fine hedge of three years growth which was absolutely impassable to any animal, *from a small bird* to the largest and strongest ox! This hedge was about four feet wide; but its great strength and density have proved that one but *two feet wide* would be every way sufficient. There were no side shoots to this hedge, but the outline was as distinct as that of a forest tree. Another hedge, however, was disposed to throw up new shoots, and spoil its own outline. And this is caused solely by the fact that it was made from slips, which, as they possess no *tap-root*, naturally throw out surface roots to gain the necessary supply of nutriment from the soil.

The depth to which the Osage Orange shoots its roots is truly surprising. Prof. Turner, in his earlier management of the hedge, had a peculiar plow made for cutting them off underground for transplanting, and at first undertook to use the instrument with one yoke of oxen. But he found that, to cut off the tap-roots of a hedge only two years from the seed, it required *six yoke of oxen!* Hedges made from slips or cuttings are worse than useless, because their want of tap-root compels them to throw out surface roots in all directions, interfering with other things which may be growing near, and finally spoiling the hedge.

From our examination of the Osage hedges at Professor Turner's—in all stages of growth—we are satisfied that *properly managed*, it makes the best known protection for all kinds of grounds—plantation, farming or gardening—ever devised. It is cheap; it is hardy and long-lived, and as a *fence* is superior to the best post-and-rail, for not even a bird can get through it.

Prof. T. has disposed of great numbers of the young plants, through this part of the State; and we believe is prepared now to supply any reasonable amount.

ART. VII.—IMPROVEMENT OF THE MARAMEC.

To the Editors of the "Western Journal."

GENTLEMEN: Regarding your Journal as the organ of Western improvement, both local and general, I beg permission to submit a few suggestions in regard to the improvement of the Maramec river. The valley of this stream abounds in iron, lead and copper; but, owing to the difficulties of transporting these commodities to market, their production is greatly retarded and the profits of the products greatly diminished. Recently, Messrs. Evans & Nuckolds, the enterprising proprietors of the Mosselle Iron Works, have become interested in the Steamboat Dove, and are now making the experiment of navigating the Maramec. The Dove is capable of carrying one hundred and twenty five tons, and draws three feet water. She is now in the river, fifty miles from its mouth; she came up on a slight rise, but there is no doubt if the snags and overhanging timbers were removed from the river, that light draught boats might run with success for, at least, six months in the year. Messrs. Evans and Nuckolds are making 50 tons of iron per week; and this, with the lead, copper, agricultural produce, lumber and cord wood, produced in the Maramec Valley, would give profitable employment to more than one boat, at least for a part of the year.

It is believed that from ten to fifteen thousand dollars would be sufficient to remove the snags and other obstructions, so as to admit the passage of small steamers.

Petitions are now being circulated in the counties on the Maramec, soliciting the Legislature to make an appropriation for the improvement of its navigation. And, it is to be hoped that the legislature that is about to assemble, will, instead of spending a large portion of its time in manufacturing a Senator in Congress, and Governor for Missouri, devise the means of promoting the production and manufacture of iron, lead and copper; and, of developing the natural resources of the State.

A MISSOURIAN
Of 20 years standing in the State.

We are happy to learn that the citizens of the Maramec Valley are beginning to be moved by the spirit of improvement: and, that, instead of regarding the Legislature as a mere political machine, they look to it for the adoption of measures calculated to encourage industry and promote the development of the rich resources of the State. We entertain the opinion, however, that there is no ground for the supposition,

that the Legislature will make an appropriation for the improvement of the Maramec: nor are we prepared to advocate this policy. We highly appreciate the value of the Maramec Valley—its soil, minerals, and forests of valuable timber, constitute it, perhaps, the richest portion of our State.

But, owing to its peculiar location, we do not believe that the legislature can be induced to adopt the policy of improving it by an appropriation from the State Treasury. And, therefore, we beg to suggest whether it would not be better for the friends of the Maramec improvement to look to individual enterprise as the principal source whence the means of effecting their object can be derived. Associations, composed of counties and individuals, have been formed, and incorporated by the Legislature for the improvement of the Osage, North Grand, and White Rivers; and if the small sum mentioned by our correspondent will effect an important improvement in the Maramc, that amount can surely be raised by the counties and individuals interested in the work.

But if the means cannot be raised by an association, we are persuaded that there is a greater probability of obtaining a donation of land from Congress, to aid in the improvement of this stream, than in getting an appropriation of money from the State. The General Government owns a large quantity of land in the Maramec Valley, the value of which will be greatly enhanced by the improvement of the river: and it is but just that Congress should bear a fair proportion of the cost of removing the obstructions to the navigation of this stream. And were the subject fairly presented to that body, we see no reason to doubt but that it would be regarded with favor. With a view to this course, we would suggest that an application be made to the General Assembly for a charter authorising the improvement of the Maramec, by an association of counties and individuals; and, that the Legislature memorialise Congress on the subject of a donation of land to aid in carrying on the work. EDITORS.

POSTAL STATISTICS FROM THE REPORT OF THE POST MASTER GENERAL, 1850.

POST OFFICE DEPARTMENT,
November 30th, 1850.

Sir:—The number of mail routes within the United States, at the close of the fiscal year, ending on the 30th June last, was 5,590; the aggregate length of such routes was 178,672 miles, and the number of contractors employed thereon, 4,-760.

The annual transportation of the mails on these routes was 46,541,423 miles, at an annual cost of $2,724,426, making the average cost about five cents and eight and a half mills per mile.

The increase in the number of inland mail routes during the year was 649; the increase in the length of mail routes was 10,969 miles; and the annual transportation of the year exceeded that of the previous year by 3,997,354 miles, at an increased cost of $342,440.

There were, on the 30th of June last, five foreign mail routes, of the aggregate length of 15,079 miles, and the annual price of the transportation thereon, payable by this department, was $264,506; beiug an increase of $8,814 on the cost of the preceding year.

There should be added to the cost of transportation, as above stated, the expense of mail messengers, and local and route agents, (which expense is chargeable to the transportation fund,) and which, for the last fiscal year, amounted to $107,-042; being an increase of $45,529 on the expenses of the mail messengers and local route agents for the preceding year.

The increase of our mail service, for the last fiscal year, over the year preceding, was about 9 4-10 per cent., and the increase in the total cost was abous 12 7-10 per cent.

The number of postmasters appointed during the year ending 30th June, 1850, was 6,518. Of that number 2,600 were appointed to fill vacancies occasioned by the decease of the previous incumbents; 262 on a change of the sites of the offices for which they were appointed; 1,444 on the removal of their predecessors; and 1,979 were appointed on the establishment of new offices.

The whole number of post offices in the United States, at the end of that year, was 18,417. There were 1,979 post offices established, and 309 discontinued during the year.

The gross revenue of the department for the year ending

June 30, 1850, was $5,552,971,48, derived from the following sources:

From letter postage, including foreign postage, and stamps sold - - - - - -	$4,575,663 86
From newspaper and pamphlet postage	919,485 94
From fines - - - -	38 00
From miscellaneous items - -	3,048 66
From receipts on account of dead letters	1,748 40
	$5,499,984 86
From the appropriation made by the 12th section of the act of 3d March, 1847, for the franked matter of the departments - - - -	200,000 00
	$5,699,984 86
From this sum should be deducted the amount received during the year for British postages, which are payable to that government under the postal convention of December, 1848 - -	147,013 38
Leaving for the gross revenue of the year	$5,552,971 48

The expenditures of the year were as follows:

For the transportation of the mails -	$2,965,786 36
" ship, steamboat, and way letters	40,543 71
" compensation to postmasters -	1,549,376 19
" wrapping paper - - -	27,435 53
" office furniture - - -	6,859 70
" advertising - - -	72,633 50
" mail bags - - - -	31,160 82
" blanks - - - -	30,639 26
" mail locks, keys, and stamps -	9,392 30
" mail depredations and special agents	29,725 79
" clerks for offices, (offices of postmasters,) - - -	357,935 51
" miscellaneous items - - -	89,526 00
" post office laws and regulations -	1,722 24
" repayment of money found in dead letters - - - -	216 52
	$5,212,953 43
Leaving as the excess of the gross revenue over the expenditures of the year, the sum of - - - -	$340,018 05
The undrawn appropriations for this department, under the 12th section of the	

act of 1847, before referred to, amounted, on the 30th June last, (including the $200,000 embraced in the revenues of the last year, and included in the foregoing balance,) to - - -		665,555 55
The Auditor of the department estimates the balance to the credit of the revenue of the department, on the day last mentioned, which will be ultimately found to be available, (and which does not include the $665,555 55 above mentioned,) at - - - -		649,165 31
Making an available balance, from all sources of		$1,314,720 86
Out of which there is payable to the British government, for postages collected under the postal treaty, during the fiscal year ending June 30, '49	$35,661 66	
And during the year ending June 30, 1850 - - - -	147,013 38	182,675 04
Leaving a net balance, (as estimated by the Auditor,) of - - -		$1,132,045 82

For a more detailed statement of the fiscal condition and affairs of the department, you are respectfully referred to the report of the Auditor hereto annexed.

The new contracts for mail transportation in the northern section composed of the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut and New York, made in the spring of 1849, show an increase of annual compensation of $96,981; being an increase of more than eighteen per cent. upon the previous cost of that section.

The new contracts made under the lettings of last spring for the western section of the Union, embracing the States of Michigan, Indiana, Illinois, Wisconsin, Iowa, Missouri, Kentucky, Tennessee, Alnbama, Mississippi, Arkansas, Louisiana, and Texas, and the Territories, exhibit a still greater increase in the annual eost of transportation in that section.

This increase is estimated in the contract office at $236,696 per annum, being about 25 per cent. advance upon the annual cost of that section under the contracts in force up to the end of the last fiscal year. Of this, about 10 and four-fifths per cent. is attributable to the increase of service in that section, and about 14 and one-fifth per cent. to the increased rate of compensation provided for in the late contracts.

The increased cost in the other sections of the Union, under the orders for the improvement and extension of the service on

existing mail routes, made by the Postmaster General, during the first quarter of the current fiscal year, will amount,

(After deducting the curtailments ordered) to - - - -	$12,470 00
And similar orders, to be made during the residue of the year, may increase the expenses - - - -	50,000 00
The placing of the steam mail packet Franklin on the New York and Havre line, will add the cost of a half monthly line for about ten months - -	62,500 00
The service in California and Oregon, so far as reported, will cost for the current year - - - - -	80,470 00
The placing of the steam packet Humboldt on the New York and Havre line, and the putting in operation of the new routes established at the last session, so far as it can be done within the remainder of the current year, in accordance with the requirements of the laws regulating the department, will probably add to the expenses of the year - -	20,000 00

The estimates upon this item, and that of the additional service yet to be ordered, are made upon very uncertain data.—Indeed, the extent and cost of the mail service, as well as the revenues of this department, are subject to constant fluctuations, and the best considered and most careful estimates can furnish only a reasonable approximation to the actual results.

The expenditures for the current year are estimated as follows:

The annual expenses of transportation, (foreign and inland,) as it stood at the close of the last fiscal year - - -	$3,095,974 00
Additional cost in western section under contracts, which went into effect July 1, 1850	236,696 00
Cost of improvements in other sections ordered in the first quarter of the current year - - - - -	12,470 00
Cost of improvements to be made under similar orders during residue of the year	50,000 00
Expense of steamer Franklin on the N. York and Havre line - - - -	62,500 00
Service in California and Oregon already reported - - - - -	80,470 00
Cost of new routes and steamer Humboldt	20,000 00
Expense of publishing a revised list of post-offices and postmasters, and a new edition	

of the laws and regulations, with a map to accompany the latter - - -		14,500 00
Expenses of last year under the heads of compensation to postmasters; wrapping paper; office furniture; advertising; mail bags; blanks; mail locks, keys, and stamps; mail depredations and special agents; clerks for offices, (offices of postmasters,) and miscellaneous items; with eleven per cent added, (such expenses necessarily increasing with the increase of the revenue and general service) -		2,447,199 90
		$6,019,809 90

To meet these expenditures the department must rely on the receipts of postages, the annual appropriation of $200,000 under the 12th section of the act of 1847, which has been before referred to, and the trifling appropriation made at the last session of Congress, as a compensation for the transportation of the matter sent free through the mails under the act for taking the seventh census.

Before giving an estimate of the revenue of the current year, it is proper to remark that no reliable estimate of the receipts from the postage can be made.

The increase for the year ending June 30, 1847, was 11 27-100 per cent; for the year ending June 30, 1848, only 7 43-100 per cent.; and for the year ending June 30, 1849, 14 20-100 per cent.; being an average, for three years, of 10 96-100 per cent.; and the increase for the year ending June 30, 1850, excluding the balances in favor of Great Britain, was 14 5-8 per cent.

It is believed that the postages of the current year will show an increase over those of the last year of at least 11 per cent. and amount to - - - -		$6,099,616 28
Deduct British postages, estimated at - -	$145,000 00	5,954,616 28
Add the appropriations for franked matter of the department and the appropriation for the postage of census matter -		212,000 00
Making estimated revenues - -		$6,166,616 28
From which deduct estimated expenditures		6,019,809 90

ART. VIII.—ST. CHARLES AND IOWA RAILROAD.

To the Editors of the Western Journal.

GENTLEMEN:—In a previous article published in your valuable Journal we proposed that at the coming session of the Missouri Legislature, a charter be obtained for a Railroad from St. Louis to the northern boundary of the State, as a preparatory step towards an organization and application to Congress for a reasonable donation of Public Lands, the proceeds of which to be applied in aid of its construction.

The meeting of the Legislature is now at hand, and we would again direct attention to this subject—especially the attention of those more immediately interested in this line of improvement.

The distance from the city of St. Louis via St. Charles and the dividing ridge between the waters of the Mississippi and Missouri rivers to the northern boundary of the State, is 230 miles. The line of road by this route will pass through the counties of St. Louis, St. Charles, Warren, Montgomery, Callaway, Audrian, Boone, Monroe, Randolph, Macon, Adair and Schuyler, on the southern boundary line of the State of Iowa.

To give an expression of an opinion as to which county should take the lead in this great work, would be as difficult as it appears to us vital to the interests and prosperity of each one of them, and perhaps equally so to other counties more remote; as branch railroads, and plank and McAdamized roads could be made connecting important business points with the main trunk, thereby securing a means of reaching a good market, and a point of perpetual steamboat navigation at all seasons of the year. Another reason why this road will be constructed is, that in its whole length, for this region, it lies in the direct and natural course of trade, from north to south.

Modesty should not prevent our asking for less than alternate sections six miles wide on each side of the line. This would make six sections in a solid block for the whole length of the road, 230 miles, which is equal to 1.380 sections of 640 acres each, amounting in all to 883,200 acres. Nor is this amount extravagant, when we consider that the State of Missouri now contains within her limits 29,000,000 of acres of unsold and unappropriated public lands.

Money can be raised on a pledge of these lands, to a certain extent—and when the road shall have been completed or its completion insured to certain points—the lands along such portions would probably sell at from three to five dollars per acre. But we may safely put it at double the minimum price—the

rate at which the government puts its lands on similar lines of improvement—and we have the sum of $2,208,000 realized from the sale of land, and which is equal to the sum of $9,600 per mile towards the construction of the road.

Some well constructed roads, with a heavy T. rail, have been built at a cost of $10,000 per mile, ready for the motive power to be placed thereon. But suppose our road to be constructed in the most permanent manner, as it should be, with the U rail of sixty pounds per linear yard to cost $15,000 per mile, then $5,400 must be raised by private subscription for each mile.

Now we hold that as Congress fixes the rate of the alternate sections which are retained by the Government at double the minimum price, there is nothing lost to the nation in making the donation—but that the lands are rather brought into a quick and ready market—principally at the cost of individual capital and enterprise—and, therefore, nothing should be carried for the government free of toll—neither mail, troops, nor munitions of war.

The length of this line should be no argument against obtaining a through charter at once, for then the strong points would help out the weak ones—and bring to bear a combination of forces.

Look, for instance, at the Baltimore and Ohio railroad, which was chartered some twenty-three years ago, and which is not yet completed—but is steadily progressing; and piercing the Allegheny Mountains, is descending the western slope towards the Ohio river.

There is an important fact involved in the topography of the north side of the Missouri river, namely, that a route extending from St. Charles to a point on the dividing ridge, between Mexico in Audrian county, and Fulton in Callaway county, a distance of eighty miles from St. Charles, will constitute the great thoroughfares leading from St. Charles to the northern and western part of the State. From this point you branch off to Jefferson City, and pass down between the town of Fulton and Cedar river, 35 miles—and continuing onward with the main line 20 miles further, may take off to Glasgow at the mouth of Charitan—a point 36 miles west and 40 miles north of Jefferson City. Thence to Independence, Weston, St. Joseph, to Council Bluffs, or to the Iowa line in the county of Schuyler.

A great work may be commenced with small means in the beginning: but let those means be applied to the completion of a link at a time, and made available; then the first link completed will help to make a second, and so on, one link at a time, to the end of the chain.

PROGRESS OF MANUFACTURES IN ST. LOUIS.

NEW WHITE LEAD AND OIL FACTORY.

The white lead and oil factory recently erected by Messrs. R. C. Clark & Co., on the corner of Austin and 12th streets, is calculated, when in complete operation, to produce 200 kegs (5000 pounds) of white lead, and consume 300 bushels of flax-seed or castor beans per diem. The machinery is propelled by an engine of 60 horse power. There are now about fifteen hands employed in the white lead department; and when the oil department shall have been completed and the whole establishment in full operation, it will give employment to about thirty operatives.

The buildings, machinery and fixtures, were planned by Mr. J. T. Moore, an experienced manufacturer, and we are informed that he has introduced some valuable improvements in the machinery and general economy of the establishment, which are calculated to produce an improved quality of white lead, as well as a reduction in the cost of manufacturing. We have now three extensive white lead factories in St. Louis, whose combined operations are sufficient, we should suppose, to supply the entire demand of the west. Their capacity for producing linseed and castor oil, greatly exceeds the supply of the raw material—a fact to which we desire to call the attention of farmers.

We had intended to prepare for the present number, a complete account of the quantity of lead, flax-seed, and castor beans consumed by the factories of this city, but having been disappointed in procuring the facts necessary for such a statement, we are compelled to defer it, until the publication of our next issue.

OIL CLOTH FACTORY.

The enterprising proprietor of the St. Louis Oil Cloth Factory, Mr. C. Muegge, commenced this establishment on a small scale in the year 1841, and has extended it from time to time, until it has become, as we are informed, the largest in the United States. The factory buildings and arrangements for drying, occupy an area of two acres. The establishment employs about thirty-six hands, and has produced during the present year, about 35,000 yards of oil cloth. Mr. Muegge is of that class of men who look to the consummation of whatsoever they undertake, rather than to immediate profits: and while the manufacture of oil cloth has declined, as we are informed, in

the eastern States and at Cincinnati, the St. Louis factory has been growing. Mr. Muegge has spared no expense to avail himself of every improvement in his power, and has made several trips to Europe for the purpose of obtaining the latest and most tasty patterns. He is now reaping the fruits of his enterprise, and may be regarded as holding the oil cloth market of the west in his own hands.

INSTITUTE OF ART AND INVENTION.

A Convention of Inventors and Manufacturers composed of delegates from Illinois, Iowa and Missouri, met in St. Louis about the 15th instant, and remained in session several days.—Several important and well-timed resolutions were adopted by this body, having reference, chiefly, to improvements in the regulations and economy of the Patent Office; but we regard the organization of an association of Inventors and Manufacturers in St. Louis, as the most important measure adopted by the convention.

Such an institution is calculated to collect and combine important elements which, for the want of combination, have not hitherto, exerted their just influence in this part of the Union. Here, the man of practical experience merely, performs much labor which might be avoided were he acquainted with the principles involved in his pursuit: while the man of scientific attainments wastes his time in the pursuit of theories, the absurdity of which would be fully shown by the knowledge of a few practical facts. The fruits of genius, too, are often lost because its possessor is destitute of the facts and materials necessary to their development.

The "Institute of Art and Invention," if properly supported and rightly conducted, will afford the means of correcting these evils; for the association of art, science, and genius, will form a combination of intelligence that will give a better direction to the labor and economy of the country.

We are gratified to learn that one of the objects of this association, is to aid indigent inventors to prosecute their designs and procure patents.

SPIRIT POWER.

Two hundred years before the beginning of the Christian Era, a man named Archimedes, a famous geometrician of Syracuse, is said to have declared that he could move the earth with ease by means of his machinery, if placed on a fixed spot near it.

John Foster, an author celebrated for his essay on Decision of Character, declared that "the noblest of all human means, must be that which obtains the exertion of Divine power."

The most effectual power generally felt and acknowledged by the human family, is commonly called moral force—but there is an acting energy, superior even to morality, which may, from its peculiarly divine nature, with much propriety, be called Spirit Power.

Mechanical power, according to Webster, is that which produces motion or force, or which may be applied to produce it.

A crow-bar is one of the simplest instruments used by man to gain a mechanical power superior to his bodily power. By a bar of iron, wrought out from the mineral kingdom, the lowest kingdom of the earth, sharpened at one end and used as a lever, man is enabled to raise weights and move objects of a physical character, as rock, timber, &c., with a force a hundred times stronger than his own.

By pulleys and ropes, wrought out principally from the vegetable kingdom, man progresses in the acquisition of power to move and raise dead weights by his own hand.

The standard instrument used by man in moving the various objects on the earth, is taken from the animal kingdom, and the power gained by this instrument is called horse power. The amount of power gained by the mechanical contrivances of man, is calculated by its number of "*Horse power.*"

By burning wood or coal under a vessel of water, man obtains another instrument of power, and by the application of this instrument to complicated manufacturing machinery, as also to cars on roads, and boats on water, a mysterious driving power is manifested, which reveals in its energetic progression, new laws of the Maker of the earth, and attests for itself by the miracles it works that, although apparently derived from material origin, yet it is a power that comes from God. This power, half earthly, half etherial, called *steam power*, is sometimes found to be destructive to the fortunes and to the lives of men; but it is so destructive only when it is imperfectly subdued. The true intent and meaning of the power, properly controlled, being to impel man and his affairs, more rapidly and surely, onward through this age of progress, to a higher and happier condition of existence, which stands longingly awaiting the approach of the human family.

Electric power, though energetic in its action in moving physical nature, seems to exert itself most effectually in the realms of mental nature, in fetching and carrying intelligence, as quick as lightning, to and from various portions of the world. Electricity is an instrument of power much more subtle than steam—and, although also dangerous when imperfectly subdued, yet, when rightly managed, it transacts business of immense importance, of a character, at a distance, and with a dispatch far beyond the power of steam.

While individual men are attending to their various occupations, as farmers, manufacturers, merchants, &c., by the use of the above mentioned with other powers; the government of the country in which they live is sustained by the harmoniously combined action of its military and civil powers. Working in and through all these complicated powers on the broadest generalities, and on the minutest details, another power is found. It is the power of mind, of calculating intellect,—the power of knowledge—*Mental Power.*

As the physical instruments, crow-bars, pulleys, horses, &c., are used by men to move and raise dead weights of a physical nature, so the mental instruments, knowledge of the world, of men and books, arts and sciences, law and literature, are also used by men to move and raise blocks and cloddy notions of a mental nature. The mind of man is not only moved and raised onward and upward, but is, and always has been, in all ages of the world, marked in its progress by the relative perfection of the arts and sciences, the law and literature of the age. Besides these general instruments of mental power, individual men have natural mental powers which they exert, to push themselves onward and raise themselves in the world. Among these powers are shrewd discernment, cold calculation and strong self-will. By these powers, brilliant victories are won in the fields of intellectual warfare, but unless the heart of the hero is in the right place, and has the right spirit in it, he is sure to find with Macbeth, only a barren sceptre in his gripe, and like the waters in the hands of Tantalus, his victories always fail in giving satisfaction.

There is a nature in man which calls upon him, even in victories, often with anguish, for a support beyond all the capacities of physical and mental powers, and for the want of that support, not only does the hero sink within that inner nature, but the powers of his body and even of his mind seem to be crushed within themselves, and to go down together with him to the ground. And may it not be that this anguish, felt in the consciousness of the want of the aid of a power beyond the powers of earth or intellect, clings to the soul after it quits the body, with a tenacity as unyielding as its immortality? and that the soul is thus hereafter preyed upon as if by a worm that never dies?

This consciousness of the want of a supremer power than any corporeal or mental power, and this apprehension of dissolution and misery, unless the want is supplied from some mysterious source; this apprehension and this consciousness in man—are they mere chimeras of his brain? or, are they not rather the sternest realities? And does not the mass of circumstantial evidence by which they are sustained, amount to a violent presumption that they are God's truths in man present and eternal?

What can man do then to save his soul from sinking in misery for the want of some power beyond the power of his body or his mind? He must turn to the source of his emotions—the heart of his moral nature—and finding there the germ of the feeling of faith, he must bring it out; for by the delivery, the nurture, the development and the cultivation of this feeling, man obtains an instrument of power by which he not only sustains, impels and raises his own soul, but even removes mountains of opposition in a moment.

Faith is an instrument of spirit power. It is a conscious feeling of the deity within one—a consciousness of the laws of the Maker of the Universe in regard to one's self—a confiding obedience to the law of the highest nature, which, even in the vegetable kingdom, the generally considered insignificant mustard seed feels in the germ of its existence while it expands itself in accordance with the laws of the Maker of Heaven and Earth, which are the true laws of its nature, and grows from the earth in which it is rooted and grounded, to which it is firmly attached, and without which it cannot live, up into another element above the earth, an invisible, etherial element—which, like a spirit, moves over the surface of the earth—called the atmosphere. Faith, in man, is analagous to the strong expansive disposition of the mustard seed, for as the mustard seed grows from its mysterious and almost invisible germ within its body out of the physical element of the earth into the spiritous element of the atmosphere, and therein spreading itself in the vast form of a tree bearing its hundred fold of grains, as also the birds of the air which rest and sing in its branches; so each individual of the human family may grow from the mysterious and almost invisible germ of the feeling of faith within his animal body, up, out of, and above his flesh nature, into an element far more spiritous than that of the atmosphere, an element which the children of God breathe in the kingdom of Heaven.

In this celestial element man may grow into the vast form of the likeness and image in, and for which he was created, developed with manifold features of character; visible, not as the branches of the tree growing up out of the earth into the air, which may be seen by the eye of the body, but visible only by the eye of the spirit, bearing an hundred fold his fruit, of good will and good deeds, as also heaven-born ideas and

emotions which, with their still small voice, like angels whispering, flutter and rest on and among the branches of his spirit.

About the time the New World was discovered by Columbus, the germ of the spirit of Protestantism was discovered in Germany, in the heart of Europe, in the breast of the Catholic monk Martin Luther. And now look at Luther! see into what a tremendous form his spirit has grown, branching and spreading itself over almost the whole earth, and think, too, how he moved, and heaved and raised aloft the spirits of his age, with that instrument of faith. In him we view the re-form of the spirit. He is the acknowledged personification of the Reformation. In the year 1520, says Hedge, in a sketch of his life, "we find him at the Diet of Worms, defending himself and his doctrine before the Emperor, Charles V, and the German Princes. That was the most remarkable assembly ever convened on earth—an Empire against a man! Lucas Cranach's picture represents Luther as he stood there, so lone and strong, with his great fire-heart; a new Prometheus, confronting the Jove of the sixteenth century, and the German Olympus. "*Here I stand, I cannot otherwise; God help me! Amen.*" In that middle age, that dark age of the Christian era, when Roman forms with iron selfishness had hidden the light of spirit, in that dark and chaotic age, Luther, by the power of his spirit, like a new creator, said let there be light and there was light.

This light,—the light of Protestantism,—the light which protests strenuously against darkness of spirit, and darkness of every kind,—this light is continually spreading itself, not only over the old, but also over the new world, and extending the branches of its rays even unto the islands of the most distant oceans, into the frigid as well over the torrid zones. The spirit power that exists in this light—this light shining from the heart of the moral nature of man, is obtained from the heart in the first place, by the instrument of faith.

Washington Irving, in his racy, honey-flowing style, treating of the life of Oliver Goldsmith, intimates distinctly, that were it not for a "knack at hoping," with which Goldsmith was gifted, he could not have sustained himself as he did.—Even when he sank within himself, when his body and his mind seemed almost crushed by the overwhelming load of debt and doubt that oppressed him—when even all his bed clothes were gone, and he was driven to the necessity of ripping open his very bed itself, and nestling himself among its feathers to keep his body warm—even in that utter extremity of his necessity, an instrument of spirit power was given to him, by which he raised himself from his naked aerie, plumed the wings of his genius, and soared aloft in his spirit, as Garrick said he "wrote like an angel."

Hope was that instrument of spirit power, which not only saved him from sinking in misery and despair, but which rais-

ed his spirit and carried it up and along, far above the troubles and vexations of the world—away into the realm of high spirits, where it indulged in communion with those who are living in that spirit land.

This instrument of spirit power—this hope—is a feeling compounded from desire and expectation, the desire of something good, and the expectation of realizing the object of desire.

Desire is an earnest, longing, praying emotion of the heart, which bursts forth from the heart, as the branches of a plant burst forth from the bud which enclosed them.

Expectation is an impression from without, intimating to the emotion within, that the object towards which the desire is impelled, will be obtained; as the warmth, the brightness, the stimulating freshness of the air of spring, impress the bud and intimate to its very heart, that the branches, the foliage, the flowers and the fruit, for which it is throbbing with an anxious longing which almost bursts it to pieces, will be fully realized.

This feeling of hope, keenly alive to the good emotions within, and the genial impressions without, may be so worked with, exerted and excited to such a flame by man, as to waft the oppression of his debts and his doubts away like a flame of fire wafts its smoke and its gasses into thin air; so that, by the aid of this feeling, man may arise from the bed of adversity where pale and shivering he had been lying, filled with a glow of earnestness, and an indomitable vigor in his nerves; and addressing himself to the labor of life, he may work wonders, satisfy others on the score of his debts and his doubts and uprightly doing his duty on earth, be exalted still higher in the splendor of his spirit nature, and as a representation of that exaltation to our physical eyes, the light of the countenance of the man, filled with the feeling of hope, may be seen to beam with the serenity and brightness of the purest sky.

Agape is a Greek word, employed by a classic and inspired writer, in a letter addressed to certain people in Corinth, and great stress is therein laid on the importance of *agape*. Without *agape*, not only the knowledge of the languages of men, but even of those of Angels, is represented as mere sound—lifeless noise. This word *agape* is sometimes translated 'love'—sometimes "charity." In the letter alluded to, it is translated "charity." The Rev. John Groves, in his Greek and English dictionary, gives "love" as the first meaning, and "charity" as the last—but in defining the verb from which the noun is derived, the first meaning given by him is "to be strictly united in affection." Judging from the above authority, and also from the context in the letter alluded to, one is drawn to the conclusion that the idea intended to be conveyed by the word was, a feeling of *love*, filling and envelopi ıg, embracing and ex-

panding the moral nature, in its minutest and most comprehensive application,—minute to an individual—to an object—comprehensive to natureand to humanity.

By this feeling of love, man gains the highest degree of spirit power—the greatest of all power. Let him begin to work with it in its utmost simplicity. Let him apply this instrument of spirit power, this feeling of moral love, to an object taken from the mineral kingdom, the lowest condition of nature—a bit of a diamond, or a piece of gold,—let him look at the diamond, observe its brightness, and wonder at it,—but let him be sure to guide his wonder with all the freeness of this interesting but disinterested feeling—and then his spirit will arise entranced in its own divine freeness, while he wonders how it is that a thing of such a trifling size possesses the magnetic power of drawing, not only the bodies and minds of men, down from their animal and mental kingdoms, but even to draw their very soul down from the Kingdom of Heaven. By handling this feeling of love in this style, perfectly free from the mean selfishness that seeks merely the possession of the object, the spirit of man is moved and raised by the power thus gained; away from and above the vexatious anxieties usually intimately connected with the object, whether diamond or gold, and even above the mental consideration of the knowledge that might be gained by means of these stones in exchanging them for travel over the various countries of the earth, and for books and works of art, science, &c.—the spirit of man is moved, and raised by the power thus gained far away up above all these spheres, into the regions of the moral world, where strange ideas and emotions call on him, and where he receives and entertains them in the chamber of his spirit, and is blest by them with sweet assurances of spirit offspring of his love and his soul as Abraham and Sarah were blest by the Angels who called on them, and who were received and entertained by them unawares.—Thus elevated to this high moral state, living and moving and having his being in the home of his celestial spirit, with these and kindred new and strange moral ideas and emotions visiting him, and with gentle earnestness stimulating him to be generous, to be liberal, and to give relief to the poor in food, and to the poor in spirit—in this high life—with these ideas and emotions—and with the practical view of doing good to those who are in want of the comforts of life, man may look down on the diamond and the gold, and, to his eye, then, the diamond and the gold have a beauty—a radiance—yes, even a halo (for to his eye all things are hallowed) which the eye of the miser, or even the eye of the common animalized man utterly fails to distinguish.

The difference of the power of perception between the miser and the man of pure spirit, while looking at the diamond or

the gold, resembles the difference of the power of perception between the dweller on this world, and the dweller on another star, while looking at the earth; the dweller on this world sees here mainly a mass of dirt and water, the dweller on another star sees here purely the twinkling of a star, very much like any other star in the sky.

Visions of beauty and angelic ideas and emotions, such as are never seen or conceived by mere animal or even mental-nature, are thus obtained by the man of pure high spirit-nature, and the greatest of all the instruments of power by which they are obtained, is this feeling of love.

Let man apply this instrument of spirit power—this feeling of moral love to other objects besides stones—to the brooks that flow and to the trees that grow upon this earth—then besides viewing scenes more charming than were ever painted by the hand of genius, he will obtain the power of finding with the free spirited Duke, in the forest of Arden, tongues books and sermons in them, and what is more, he will obtain the God-like power of finding "good in every thing."

The application of this feeling of love is usually made, and almost uniformly confined to individuals and to humanity, and although the dominion of the feeling should not be confined to this sphere; yet this application of it is good and practical.—The work wrought by it in this sphere, instead of blessing only the entertainer, as it does in the sphere of mineral and vegetable nature, like the quality of mercy "it is twice blessed;" it not only blesses the one who applies it, but also the one to whom it is applied. The application of moral love by one individual to another, moves and raises the spirit of the one entertaining the feeling, not only with a high emotion of internal moral enjoyment, but also moves and raises his spirit to look, to say and to do things pleasing to the person to whom the feeling is entertained, then, by these looks, words and actions, the feeling that dwelt in the breast of the entertainer, becomes communicated to the breast of the entertained, and the spirit of the one entertained, is thus likewise moved and raised not only with a high emotion of internal moral enjoyment, but also to recommunicate by kindred kind looks, words and actions the delightful feeling mutually enjoyed, until at last, by continued harmonious intellectual and cordial conversation and intercourse, the spirits of each are carried away in a fiery chariot of Divine bliss more etherially than Eros and Psyche.

Their hearts burn within them while they talk by the way, and even while they are musing the fire burns.

Entertaining this feeling to humanity in a way analagous to that in which it is entertained to the individual, while the individual rapturous emotion is experienced the general tone of the feeling is inspired into and diffused over the map of hu-

manity, so that the human family, whenever and wherever touched and imbued by the influence of this genial feeling, are moved and raised, civilized and enlightened, in their spirit.—Their civil and religious liberties become exalted and expanded into forms and worship of greater and higher freedom—while at the same time they increase in the power of developing the resources of the soil, as also the arts and sciences; for this spirit power of humanity, although higl er than, yet is not inconsistent with the physical, or the mental powers, but works with them in triune harmony, so that the pleasing transport occasioned by the exercise of this spirit power, is felt by humanity not only in the high moral nature, in which their spirits are exalted by this power, but also with thrilling congenial influences, like a melody of music, or a glow of eloquence is felt in every fibre of their brains, and even in the very nerves of their sinews, and in the very marrow of their bones. This is the way, by spirit power, that "*the bone and sinew of the country*," that immense foundation, so much praised yet so much neglected, may be practically worked upon, built up and completed with polished columns and corner stones, and "cloud capped" spires, into a worthy temple of the Divine spirit.

Disappointment and despondency, trials and anxieties, vanity and vexation of spirit, envy, hatred and malice and all uncharitableness dam the current, and sometimes quench the very existence of the spirit in the breast. What can man do to save himself in this case? What can he do to raise himself above these obstacles and these difficulties, and to free himself from these half visible, half invisible fiends that, assassin-like, endeavor to way-lay him, and dog-like, back-bite him in the path of his life? Let him be filled and enveloped with this feeling of love, and minding the business of his life let him fear no evil—though he walk through the valley and the shadow of death—though malice may do its worst—though the mean and ignorant may envy—and though enemies may hate like poison—for there is that inherent power in the feeling of love, that it not only moves and raises the spirit of the man who employs it, so that it may overcome every opposition in the way—but there is also a light which shines from it, which dazzles and confounds the rebels who oppose it, until they quail and hide their faces as the Roman guards shrank and fell down like dead men, when they attempted to oppose the march of the Savior from the vale of death, and there is also a heat which emanates from it, which melts down every fiend-like opposer as if coals of fire had been heaped upon his head.

In the times of their Babylonian and Median captivity Shadrach Meshack and Abednego, were cast into a fiery furnace seven times heated—and Daniel was cast into the den of lions, yet the spirit of fire, and the spirit of lions were both subdued

by the power of a higher spirit, which dwelling in the hearts, filled and enveloped its entertainers, sustaining and preserving them in a way which all the arts and sciences of men, and even of magicians, fail to find out. Let man then be earnest in his faith—brilliant in his hope—and ardent in his love—resisting every temptation to doubt, to hate, or to despair, and as sure as he lives he will "not be overcome of evil, but will overcome evil with good."

Let these truths, some of which are hard for a selfish man to understand, stumbling blocks to an infidel, and consummate foolishness to a man of mere heartless wit,—let these truths which are plain to a child, be instilled into the hearts of the boys and girls—the rising generation of the present age—so that when they come upon the stage of action, they may be characterized by the influence of this spirit power as a race of noble and public spirited people—that they may be warm and stout-hearted as well as bright and full-minded, "and graced with every accomplishment to render them irresistable."

Let the farmer at his plough, while he works his way along in the proper field of his labor, also feel this spirit power working in his heart, and then with farmer Burns, his heart may rise with gladness, and glow with rapture, at the sight or the thought of a daisy or of a fellow being.

Let the blacksmith, at his anvil, as he hammers away on his horse-shoe, while the sparks are flying from the iron, stir up the fire in his heart; then besides expanding and elevating his influence for good, in the circle of his workmen and his customers, he may rise from that sphere like the learned blacksmith, Elihu Burrit, the apostle of the idea of the peace Congress of nations.

Let the merchant at his counting-room, while with his clear head he calculates the profit to be gained in certain adventures, also with his pure heart meditate the blessings to be bestowed in systems of benevolence, Abbot Lawrence-like, he may thus form himself into a model man, fit to fill any place of honor for his country—to be Minister, or to be President.

Let the lawyers, the doctors and the thinkers in their various avocations, while making a fortune and a reputation for skill in their professions, by the sweat of their brains, learn the art of refreshing themselves, with cordial drafts, from the fountain of their feelings. Let them work with their hearts, as well as with their heads, and let the stream of their liberal feelings flow out to humanity like the feelings of a Fillmore, a Linn and a Macauley.

And as the crowning work of man, let the principles of faith, hope and love, be placed on a fixed spot near the earth, on the broad basis of the heart of humanity—then He who is that acting energy, that moves invisibly as the air, in and

around all, may be obtained "if haply men might feel after him and find him though he be not far from every one of us," and thus by the harmonious exertion by them, with him of his power in them—by this spirit power, men may move themselves on the earth more like demi-gods than were the heroes of Homer; and the mental and the moral world may be moved and raised by them in a practical way, and with an ease as far above and beyond the speculations of Archimedes as the power of God, though working in and upon is at the same time, far above and beyond the power of man.

ERRATA.

Page 181, line 24 from bottom, for 1825 read 1826.

" 182, after ART. V., read VEGETABLE ECONOMY, instead of AMERICAN AGRICULTURE.

Page 203, line 9 from bottom, insert a comma after "yet."

" 205, line 20, read Deity instead of deity.

" 205, last line, read "and," instead of ans.

" 206, line 11, after the words "he is," insert the words "to be."

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Article I.

THE IRON TRADE OF THE UNITED STATES.

Iron may be regarded as a commodity essential to a state of civilization; and, consequently, a certain and sufficient supply, for the demands of each respective country, should be placed beyond the contingencies incident to foreign production and foreign commerce. A country may be rich in all the elements of wealth; its inhabitants may be inteligent, industrious and enterprising; and, yet, if it depends upon others for its iron, its progress is always liable to be embarrased by causes beyond its control. And, therefore, it may be safely affirmed that no people, dependant on foreign countries for a supply of this indispensable commodity, can attain to the first rank among civilized nations of the present age.

While the truth of these assertions is obvious to every inteligent mind—and denied perhaps by none—yet, many people of this country, looking alone to what they esteem their individual interest, acquiesce in the existence of a policy which is rapidly driving the producers of iron into other employments; and, increasing its importation to an extent calculated to produce embarrasments in commerce and a consequent depression in all the leading pursuits of the nation.

Believing that the true condition of the Iron trade in the United States is not generally understood by the people of the west we have collected, from sources deemed reliable, a variety of facts calculated to show the condition of the producers, and, also, the bad effects likely to result from large importations of iron from other countries.

The following facts relating to the condition of the iron trade in Pennsylvania are derived from the report of a committee on statistics, appointed by a convention of Iron Masters held in Philadelphia in December 1849.

It appears that the Chairman of the Committee made a tour through the State, visiting in person, or obtaining authentic in-

formation from each of the Iron Works in the State; and we have rarely met with a more complete collection of statistics relating to any branch of industry. We have selected such parts only as bear more immediately upon the points under consideration. We extract from the Railroad Journal.

"*Production of Iron Ore.* The following table shows the number of furnaces of each sort and of bloomeries in the State. The capital invested in land, buildings and machinery. The actual make in 1847, 1849, and the probable make of 1850, respectively.

Blast furnaces using	No.	Investment.	Present capacity. Tons.	Make 1847. Tons.	Make 1849. Tons.	Make 1850. Tons.
Anthracite coal	57	$3,221,000	221,400	151,331	109,168	81,351
Bituminous coal	7	223,000	12,600	7,800	4,900	3,900
Coke	4	800,000	12,000	10,000	.....	.....
Charcoal hot blast	85	6,478,500	130,705	94,519	58,302	42,555
" cold	145	5,170,376	173,654	125,155	80,665	70,727
Bloomeries	6	28,700	600	545	335	280
Totals	304	12,921,576	550,959	389,350	253,370	198,813

Of the 298 furnaces in the State, 149, or exactly half, are in blast this year—and of this number about one-third are making no preparations to blow, during next year.

The make of 1850 cannot exceed the amount above stated for this year, and will probably not equal it. It is estimated simply by deducting from the make of 1849 the amount produced by such furnaces as were at work last year and are now idle.

The estimate allows nothing for any diminution consequent on the further decline in the price of iron which has taken place since the date of my visit, nor for stoppages and failures.

Fifteen furnaces were sold by the sheriff in the first four months of this year, and other sales under execution, will probably reduce the make below the amount above stated. A comparison of the make of 1850 with that of 1847 shows a decrease of 190,537 tons, or 49 per cent. in three years. If the present state of things continues, the make of 1851 will not exceed 100,000 tons.

Conversion of Cast into Wrought Iron.—The folllowing table shows the number of forges and rolling mills in the State. The investment in lands, buildings and machinery. The total number of converting fires and their capacity per annum, and their make in 1847 and 1849.

	No. works.	Investment	No. of forge fires.	No. of puddling furn.	Capacity. Tons.	Actual make 1847. Tons.	Actual make 1849. Tons.
Charcoal forges	121	2,026,300	402	....	50,250*	39,997	28,495
Roling mills	79	5,554,200	....	436	174,400†	163,760	108,358
Totals	200	$7,580,500	402	436	224,650	203,727	136,853

* 402 fires at 125 tons per annum.
† 436 furnaces at 400 tons per furnace per annum.

The make of 1849 shows a falling off from that of 1847 of 66,874 tons, or 33 per cent.

In Eastern Pennsylvania, the manufacture of all descriptions of iron that come in competition with the English is extinct. All the markets accessible from the sea or the lakes being entirely supplied with the foreign article.

A small amount of railroad iron is still made for the interior, but this branch of manufacture shows the following decline:

Present annual capacity of the State . .	64,400 tons.
Make 1847	40,966
Make 1849	18,973

Decrease in two years 21,993 tons, or 54 per cent.

The make of 1850 will show a still greater falling off—but it cannot be accurately estimated, as the mills run or stop as they succeed or fail in obtaining contracts for their iron. On the six rail mills in the State, two are stopped entirely, and the remaining four are not averaging half time.

The other rolling mills now running are sustained almost entirely by the manufacture of boiler plates and cut nails, which are less seriously affected by foreign competition, though the prices and the demand have been much reduced by it. The English cannot make, at any price, boiler plates equal to our best charcoal plates, but they now furnish all the inferior ones, as well as all the flue and sheet iron now sold.

Cut nails are exclusively of American invention and manufacture, and they have never been imported.*

The total number of nail machines in the State is 606. The annual productions of each machine average 1000 kegs of 100 lbs. each, making 606,000 kegs, or 30,300 tons a year. Of the product of the forges two-thirds are sold in the form of blooms to the rolling mills, and are manufactured into boiler plates, horse shoe rods, and bars for the manufacture of scythes, axes, edge tools and cutlery, and other articles requiring a high polish. The

* The price of cut nail has steadily declined in consequence of improvements in the method of manufacture and of domestic competition, from 6 cents per pound in 1839, to 3¼ cents, the present rate. It cannot be reasonably doubted that a similar result must follow the permanent establishment of other branches of the iron manufacture, and hence the fallaciousness of those arguments against initial protection, which are founded upon the assumption of a perpetual tax upon consumers.

remaining one third is sold in the form of hammered bar iron in competition with Swedish and Russian iron.

The Conversion of Iron into Steel.—The following is a list of all the works in the State engaged in the conversion of steel:

County.	Situation of Works.	Owners.	Amount annually converted.
Philadelphia,	Kensington,	Jas. Rowland & Co.	600
"	"	J. Robbins,	500
"	"	Earp & Brink,	100
"	"	Robt. S. Johnson,	400
"	Oxford,	W. & H. Rowland,	700
Lancaster,	Martic,	R. & G. D. Coleman,	400
York,	Castlefin,	R. W. & W. Coleman,	100
Alleghany,	Pittsburg,	Singer, Hartman & Co.,	700
"	"	Coleman, Hailman & Co.,	800
"	"	Jones & Quigg,	1,200
"	"	Spang & Co.,	200
"	"	G. & J. Schoenberger,	200
"	"	S. McKelvy,*	178
	Total tons	- - - - - - - - - - - - -	6,078

* These works have only been in operation six months: 44 tons of the above amount is cast steel.

The total number of iron works of all kinds in the State is 504. The capital invested in lands, buildings and machinery, $20,502,067. The number of men employed, 30,103. Number of horses employed, 13,562.

The capital includes only such land and buildings as belong to the iron master, and such as are directly dependent on the iron works for their value.

Thus the *value* of farms, grist and saw mills, and similar property, horses, wagons, tools and the like, and the dwellings of workmen near large cities, are excluded, though belonging to the works, because they have an independent value.

The value of all coal land has been also excluded, both for the reason just given, and because it is the custom throughout the State, with but very few exceptions, to purchase coal delivered at the works. The capital, and men, and horses employed in mining and transporting this coal to the works, and in transporting the finished iron to market, have also been excluded from the above account, because sufficient data were not in my possession for more than a conjectural estimate.

More than one half of the anthracite furnaces, and a portion of the charcoal furnaces purchase their ore of the farmers in their vicinity, who dig it on their farms and haul it to the furnaces in the winter, and at other times when they are not more particularly occupied with their agricultural labors. There are other large

and valuable ore banks in the State which belong to parties who work them and sell the ore to furnaces in their vicinity. The value of all these ore banks and the number of laborers employed at them, are excluded from the above account, which comprises only such real estate as belong to persons in the iron business, and is indispensibly requisite to cary on such busines—and the *number* of men and horses directly employed by them.

The number of men thus engaged, over and above those reported to me as in the pay of the iron manufacturers, may be very nearly approximated by reference to tables A and B, pages 89 and 91 in the communication of S. J. Reeves, Esq. on the elementary cost of making pig and bar iron. On the basis of these tables I have calculated the number of laborers not in the pay of iron masters, but directly dependant on the iron works for support, to be 7,081 for the blast furnaces, and 4,432 for the rolling mills, forges, etc.: making together 11,,513 to be added to the number above stated, or a grand total of 41,616 men dependant on the iron business in the State. Allowing five persons to each laborer, we have a population of 208,080 persons, or about one tenth of the entire population of the State dependant on the manufacture of iron.

The *consumption of fuel* in all the iron works of the State in 1847 was as follows:

Anthracite coal, 483,000 tons, at an average value of $3 per ton - - - - - - - - - - - - - -	$1,449,000
Bituminous coal, 9,007,600 bushels at 5 - - - - -	450,380
Wood, 1,490,252 cords, at $2 - - - - - - - -	2,980,504
	$4,879,884

The following statement of the iron works now running, or in running order, shows the number of each kind built in each period of 10 years previous to 1840, and in each year since that date. Also the number of failures in each of the last ten years:

		Blast fur.				Bloomeries forges and roll. mills.		Total of all kinds.	
		Mineral coal.		Charcoal.					
		Built.	S. F.*	Built	S. F.*	Built	S. F.*	Built	S. F.*
Ten years ending January 1st	1730	..	..	...	...	1	...	1	...
	1740	..	..	1	...	1	...	2	...
	1750	..	..	2	...	1	...	3	...
	1760	..	..	2	...	5	...	7	...
	1770	..	..	...	...	...	...	...	...
	1780	..	..	3	...	2	...	5	...
	1790	..	..	1	...	4	...	5	...
	1800	..	..	9	...	16	...	25	...
	1810	..	..	11	...	19	...	30	...
	1820	..	..	14	...	16	...	30	...
	1830	1	..	18	...	30	...	49	...
During the year	1840	5	..	72	...	46	...	123	...
	1840	3	..	3	3	6	3	12	6
	1841	1	..	3	1	2	1	6	2
	1842	5	2	8	8	7	10	20	20
	1843	..	1	5	4	2	2	7	7
	1844	4	6	13	2	4	3	21	11
	1845	14	..	15	2	11	1	40	3
	1846	11	1	30	3	12	...	53	4
	1847	8	1	12	15	5	8	25	24
	1848	5	5	6	20	6	12	17	37
	1849	3	5	2	30	5	6	10	41
Four months in	1850	3	..	...	15	4	7	7	22
Now unfinished		5	..	...	...	1	...	6	...
Totals		68	21	230	103	206	53	504	177

* Sold by sheriff or failed since January, 1840."

We have not been careful to note all the works that have ceased to operate during the year 1850 but it is quite certain there has been a considerable falling off in the production and manufacture of Iron within the last few months. The AMORY Roling mills near Richmond, Va., which consumed annually about 4,000 tons of pig iron and about 200,000 bushels of coal, and the Manakin Iron works 12 miles from the City of Richmond, Va., stopped sometime in the Autumn of last year; and the Allentown works, Lehigh county, Pennsylvania, were closed in November. We extract the following notice of the Allentown works from the Railroad Journal. "These furnaces have made as much as 10,000 tons of iron in one year; and in that time consumed 20,000 tons of anthracite coal, 25,000 tons of iron ore, and 12,000 tons of lime stone. They were constructed with all the new improvements, and were very advantageously situated on the Lehigh river. The quality of the iron was so decidedly superior, that it always obtained the highest price." When establishments combining so many advantages are compelled to stop we may conclude that unless something occurs, favorable to this branch of industry, it will not be long be-

fore it will cease to exist, except upon a small scale in districts where it is protected, simply, by its location.

In what manner, and to what extent will this condition of the iron trade affect the agricultural interest, the commerce, manufactures and public improvements, of the nation? These are inquiries which are now presented to the consideration of the statesman, the political economist and, indeed, to the American people at large.

If we expect foreign countries to purchase our cotton and other agricultural staples we must at least take a portion of their products in exchange; and our imports must, as a general rule, be equivalent to our exports. From the truth of this proposition a large portion of the American people, and more especially of the agricultural class, seem to have arrived at the conclusion that the amount of imports constitutes the only limit to the demand for American products in foreign markets; and hence they advocate the policy of encouraging the importation of all commodities except such as they themselves respectively produce. Such a policy is calculated to retard the prosperity of any people who may be so unwise as to adopt it, and must inevitably impoverish their country in the end; for it tends to confine industry to a few pursuits, and exhausts or destroys the great volume of natural wealth in the process of producing one, or, at most, quite a limited number of marketable commodities.

The only way of obtaining an unlimited market for all the products of a country so extensive and varied in resources as our own is to give encouragement to the greatest diversity of employments: let us adopt and steadily pursue this policy, for one generation, and the American people will cease to feel the want of a foreign market for their raw material.

Suppose we should abandon the production of iron, and rely upon Great Britain for a supply: in such case our imports from that country, provided the use of Iron should not be diminished by our inability to purchase, would amount in a few years to $50,000,000 annually.

We have seen it stated that our imports of iron, in all its forms, for the year ending in June 1850 amounted to about $23,000,000. Should we increase our imports to $50,000,000 what will Great Britain take from us in exchange for this additional amount of her products? We have been pressing upon her markets, for many years, every thing that she would take from us at remunerating prices; we have increased our imports from year to year, thereby enabling her to take a larger quantity of our commodities, and, yet, we learn that our imports for the year ending 30th June 1850 exceeded the exports by more than $38,000,000:—imports and exports of specie not included.*

* We make this statement from the North American. We have not seen the official document.

These facts are sufficient, we should think, to convince the American people that there is a limit to the foreign demand for our agricultural staples; and, that our imports cannot be materially increased without imminent hazard to the prosperity of the country.

But were it otherwise, yet, it would be our true policy to produce our own iron. When we investigate the various pursuits connected with the production of Iron we find that farm labor and the products of agriculture are the principal agents employed, and, that these constitute much the larger portion of its cost. Indeed, iron is justly regarded as a modified form of agricultural products.

Therefore, we import from Great Britain grain, hay, potatoes, garden vegetables, beef, pork, fowls; the produce of the dairy, horses, oxen and mules in the form of iron; and these make up at least one half of its price: while, at the same time, all of these articles are actually produced in this country much cheaper than in Great Britain; and, but a small portion of them would bear transportation to distant markets, even if they were in demand. The flour, beef and pork consumed by those engaged in the production of iron bears but a small proportion to the other farm products necessary to the prosecution of this branch of industry; and consequently the demand for these articles in Great Britain would be increased in but a very small degree, even if we should import thence all the iron which we consume; while, on the other hand, it may be confidently affirmed that the production, at home, of all the iron which we consume would afford a market for a larger amount, in value, of agricultural products than we export to every part of the world, cotton and tobacco excepted. Are the farmers of this country prepared to sustain a policy which threatens to deprive them of a market for so large a part of their products? We appeal to them, not merely because they constitute the most numerous class of citizens in this country, but for the reason that upon them and the rewards of their labors depend the support and prosperity of every other department of industry.

Commerce, external and internal, depends upon, and is supplied with its commodities by the productive labor of industry; this is the fountain whence its current flows: and though accidental causes may sometimes enlarge or diminish its volume, yet, the stream again resumes the measure of its source: nor is it in the power of man to abrogate or change this law of its nature. Hence whatsoever affects industry, whether to enlarge or diminish its productiveness, affects commerce also; and consequently the only certain way to promote and sustain the growth of the latter is to foster and encourage the former.

Dependant mainly upon Agriculture and Commerce for its support, the manufacturing interest can never prosper, or be sustained in a country where these great departments of industry are embarrassed by an unwise policy.

But let us proceed to investigate the effects that this rapid de-

cline in the production of iron is likely to produce upon our works of internal improvements.

The history of internal improvements shows that in every country, where they have been undertaken upon an extensive scale, their prosecution has caused derangement in commerce and great pecuniary embarrassments; these consequences result from certain laws governing commerce and the circulation of money: and such results must always attend the creation of a large amount of property of a character that cannot be transported from one place to another. Its value must be represented by money: and so strong is its power of attraction that it compels the current of circulation to deviate from its accustomed channels and turn in the direction of its location.

Many extensive works of internal improvement have recently been projected in the west: these will require an immense amount of money to aid in their construction, and, to represent their value when completed: but without a change in the economy of the people of the United States, as well as in the policy of the government in respect to the iron trade, this region is destined, again to fail in its schemes of improvement.

The imports of iron, in all its forms, in the year ending 30th of June 1850 were, according to statements which we have seen in the public prints, about 8,000,000 more than the imports of the preceding year; and, if one half of our railroad schemes are prosecuted, this rate of increase must be augmented unless encouragement is given to the home production. Should this state of our foreign commerce continue, the construction of rail roads in the west may be regarded as impracticable; and consequently at the present time such enterprises should be undertaken with great caution.

The first object to be looked to by those who take an interest in the construction of railroads or other improvements should be such a change in the present revenue laws as will restore the iron business of the country to a prosperous condition. It is not our purpose at present to discuss the principles of free trade or of protection: such discussions are generally unprofitable, because of their near relation to party politics.

For ourselves, we regard all impost duties as expedients: and as such they should always be adopted with reference to the best interests of the nation. We shall not undertake to point out any particular mode of action for the national legislature in respect to this subject. That body has before it the memorial of the "Iron Master's Convention," a document which we have read with attention; and we feel persuaded that no member of Congress, who possesses an American heart with a moderate degree of inteligence and honesty of purpose, will oppose the moderate requests of these memorialists.

We extract the following paragraphs from the memorial, for the purpose of showing some of the grounds on which they claim pro-

tection against foreign producers, and the nature and extent of the legislation which they deem sufficient to correct the evils of which they complain:

"The policy of purchasing only in the cheapest market sends not only the people of the United States, but of all the continent of Europe, and, in fact, of all the world, to Great Britain for iron; for there the cost of making is one-half less than here, and in still greater disproportion with most other nations. The difficulty is, that the manufacturers and merchants of that country are not governed by the cost of their production in selling their commodities, but by the extent and urgency of the demand. When there is a demand, the price is at the highest; when there is not, the world is invited to a cheap market.

If it be objected to such a development of the manufacture of iron, that the cost of production is too great in the United States, and that we ought rather to import that which is purchased cheaper in other countries; the reply may be made that, Great Britain being the only country in which iron is sold at lower rates than here, our demand could only go to that market; that if sound economy requires us to obtain our supply of iron in Great Britain, the same motive would send all other nations to the same market. But our orders alone could not be filled without raising the price, as to preclude all possibility of our obtaining a full supply. If we should order from Great Britain in one year, additionally, half the quantity of iron we now manufacture, prices would go higher than they have ever been for a century, in England or America. The British iron market is cheap when you refrain from it, not when you press upon it. The cost of manufacturing iron is far from being the only, or even the chief controlling element of the price. The manufacturer and holder of iron in Great Britain are extremely sensitive to a demand for any increased quantity of iron, or to any increased urgency of demand, whether from abroad or for home consumption.

A million of tons of iron—which is the amount of our consumption when the industry of the country is suffering under no depressing causes—would have cost Great Britain, in 1843, at the prices then prevailing, (taking half the amount in pig, and half as bar iron,) £3,500,000 sterling. In 1846, the same quantity would have cost £9,000,000 sterling, at which prices it was more economical to manufacture than to import. These high prices gave an immense impulse to the production of this country, and showed how promptly capital and enterprise combined to overcome an emergency by which the country was threatened with a deficiency of the indispensable article of iron.

Had we even a stipulation, by treaty, on the part of the government of Great Britain, that we should always be furnished with iron in that market at the low rates now current, say a million of

tons for $20,000,000, how could we pay for it? We already import more than we can pay for in exports.

All the shrewdness and enterprise of our merchants are constantly at work to increase our exports; not only in every thing exported that will pay a profit, but every article that will pay a freight. How absurd to suppose we could pay $20,000,000 additional for iron. Any attempt to supply ourselves with iron from abroad would, if persevered in, reduce our consumption from 100 lbs. for each person to far less than half that quantity, besides abridging our imports of other articles, and wholly deranging our foreign commerce. * * *

To manufacture 800,000 tons of iron, the present product of the United States, gives support to upwards of 250,000 persons, to whom at least twenty millions in wages must be paid. Of this sum $4,000,000 will be expended in coarse cotton fabrics for clothing and furniture, $3,000,000 for woolens, and 3,000,000 for other items of clothing and domestic comfort. The $20,000,000 earned by the operatives in iron will thus be diffused over the whole country, giving vigor and activity to numberless branches of industry. The South will furnish cotton, sugar and rice; the Middle States bread, potatoes and meat, and the Northern States the products of the loom; whilst thousands of tailors, hatters, shoemakers and other tradesmen, find constant employment in ministering to the necessities of the makers of iron, consuming themselves an additional quantity of food and clothing by a demand distributed in like manner. * * *

In full activity of business in the United States our consumption of iron has reached 100 lbs. for each person. If no disturbing cause had interfered, we should now be consuming 200 lbs. Our farmers could amply feed the laborers needful to such an increased production, and our machinists and mechanics could soon, under the operation of such a system, work up and prepare it for consumption. Every branch of industry would have all the rest for customers; and if all measured their values by the same scale, all would be rewarded according to their industry. It is well known that low prices of iron are no boon to those who buy to work up and sell, and that the seasons of highest prices are often periods of largest consumption. In 1847, pig iron ranged above 30 dollars per ton in this country, yet at these high prices the whole stock of that year, estimated at 750,000 tons, was consumed; all the old stocks and remnants were swept off, and it was perfectly apparent, to those well acquainted with the state of the market, that there was an actual deficiency of supply to the extent of very nearly, if not quite, 100,000 tons. In 1849, with pig iron at 20 dollars and bar iron at 50 dollars, the consumption of the country has probably fallen off one-third and the production one-half. With this diminished production domestic stocks are now accumulating rapidly. Of the amount imported this year a very large proportion yet re-

mains in the market. The quantity of iron now on hand in this country is estimated at 300,000 tons; and of this one-half is British. The manufacturers of castings, of machinery and hardware, now find that the consumption of their articles is checked, and that the low price of their raw material is not only no benefit, put a positive evil, and they are ready, equally with the makers of iron, to ask for a remedy. A similar result will be found by comparing all the periods of high and low prices.

To whom, then, enures the advantage of cheap foreign iron? Abundance of food is no more beneficial to a man in the agonies of a fatal disorder, than cheap iron to a paralyzed industry. The ability of the country to consume iron depends on the vigor and activity of all the departments of industry. If agriculture languishes, the consumption of iron is diminished; if the machinery of the north is idle, or partially so, the demand for iron falls off and so if cotton or sugar are selling at inadequate rates.

At the present moment various interests are suffering from the utter stagnation of the iron trade, as the operatives in iron will this year, 1849, consume in supply of their wants some twelve millions of dollars less than in 1847. This alone is enough to cary serious injury into numberless channels of industry. It especially affects the consumption of cottons and woolens; for the use of these can be abridged to a greater extent than food. All interests are, therefore, bound together by common ties; when one suffers all suffer. * * *

We object to the doctrine that industrial pursuits are subordinate to foreign commerce; and that the latter is to be considered as the rightful patron of industry. In our view, industry stands first in natural order, and should be the first care of the legislator. Commerce is merely an agency, the charges of which, as well as its powers, should be kept to the lowest point consistent with efficiency. It may suit those engaged in commerce to insist upon the "Let us alone policy," for doubtless merchants can take care of themselves, and thrive not the less, when the producers, from whom their profits come, are suffering most. The manufacturer has, in all countries, asked for especial legislation, and under its good effects the present manufacturing systems of Europe and this country have grown to their present magnitude. The relative importance of the domestic production of this country and its foreign commerce, may be seen in the fact that our foreign commerce yields from six to eight dollars worth of foreign commodities to the consumption of each individual of our population; whilst the domestic industry of the country furnishes not less than from 75 to 100 dollars for each person. Shall we pursue a policy impairing the power that produces the larger supply, in the vain attempt to add the worth of a dollar or two a head to the quantity of foreign commodities consumed?—And be it noted, that every dollar a head added to our

consumption of foreign goods adds over 21,000,000 dollars to our imports.

If an ample supply of iron be indispensable to national progress and national welfare, and if the whole of that supply cannot be imported as cheaply as it can be made at home, the principle which should govern legislation applied to this industry and to others in like circumstances, is clearly discernable. If home production, on which we rely for more than three-fourths of our consumption, is not sustained in that activity which ensures its proceeding with economy and advantage, it must flag; and the product being diminished, a greater demand must be thrown upon the foreign market, enhancing the prices of importation. But if the home production is adequately sustained by a free market, it can supply all the channels of consumption. Legislation, marking closely the line of vigorous production at home, will encourage importation, with the double purpose of obtaining revenue and keeping the manufacturers at home to fair prices.

Sustain the domestic manufacturer at the point of full production, and then admit the foreign article freely. The more closely our revenue enactments approximate this object, the more perfectly will they encourage domestic industry, obtain the largest attainable revenue, and best secure the interest of consumers. The manufacturer, constantly struggling to keep up his prices, will be as constantly met by foreign iron, selling at such rates as to keep him to the line of public advantage. It is the operation of a well managed competition between the domestic and foreign producer, which results in the greatest benefit to the consumer. If the consumer is driven to a foreign market for his supplies, or for a too large a proportion of them, prices will be inordinately advanced against him; while, if the foreign market is prohibited, or too heavily burdened, the same undue advance may take place at home. But if foreign iron is produced at the point designated, it not only works no injury, but produces positive public good, as to revenue and prices, and also as to increased consumption of iron. There are certain average rates at which manufacturers of iron in this country can live and flourish, and these rates are very little, if any, above those to which the often-recurring fluctuations of prices in Great Britain are carried. At these rates, which are easily ascertained by the legislator, the line of competition can be established with the greatest advantage to the consumer. They will not exclude foreign iron; but frequently attract it. During the last fiscal year, the very large importation of 315,000 tons of iron has taken place. Of this, much the larger proportion has probably been sent to us on foreign account, because there was no demand at home; it was sent to save the home market already broken down, from further depression. It has broken down our markets; and, if sold at present rates, will not yield the makers a penny of profit. The iron, coming thus to a bad market, came because it would have been worse for the hold-

ers to keep it at home. If previous legislation had shielded our market so as to maintain prices remunerating to our manufacturers, the additional duty necessary for this purpose would not have deterred the export of iron to this country; for, while those who shipped it to our ports must have paid a higher duty, they would have realized better prices. A ton of iron rails, under the present tariff, at the prices prevailing in 1846 and 1847, was charged with a duty of twenty dollars, which was almost prohibitory, and therefore produced little revenue, making foreign rails cost 90 dollars per ton. During the year 1849, a ton of rails has been charged with only eight dollars, and has, of course, produced but little revenue; whilst a ton of rails were laid down in our market at 45 dollars, injuring the domestic producer to an extent that is incalculable. A system of revenue which would meet the low prices by a proportionate increase of duty, and make provision for high rates by a like reduction, never excluding the foreign iron, would, we believe, meet the exigencies of domestic industry, and greatly increase the revenue. Whatever may be the advantages of the *ad valorem* system in other cases, they are more than neutralized by the fluctuations of the prices of British iron. It is true that a part of this objection applies with equal force to specific duties; for, when these are high enough to meet the difficulty of low prices, they become prohibitory when prices rise. These considerations furnish a strong inducement for special provisions in our revenue system in regard to foreign iron. A system could thus be devised which would give a mighty impetus to the production and consumption of iron, and to other dependant branches of industry. A home competition could be thus ensured, which would, in the end, reduce the price of iron to the lowest limits consistent with undiminished production. Under such a policy, we should soon surpass Great Britain in the quantity of iron made and consumed, as much as we do now in the quality. We should employ hosts of laborers, and attract them hither from all quarters of the world; and for every million of people which this scene of industry would draw to our shores, we should be furnished with an additional home market, equivalent in amount, and far more remunerative, than the average export of our foreign trade.

In closing this memorial, we ask your intervention in our favor, and the insertion of such provisions in our revenue laws as will "regulate commerce with foreign nations" in iron, and exclude from our markets the results of those destructive fluctuations and irregularities, which originate in foreign causes, and should expend their force on foreign shores. This being done, we only ask further that such duties be imposed upon foreign iron as will bring the largest revenue to the public Treasury."

Article II.

INDIVIDUALITY AND ASSOCIATED CHARACTER.

Distinctions between Eastern, Western, and Southern character.—Causes tending to produce these distinctions. The Eastern and Western man compared.—The Western man the personification of *individuality*, the Eastern man the representation of *associated* character.—The importance of a combination of these two characters in the West.—True American Literature—its cradle and birth place.—The mingling of different races in other nations and the results. The mingling of races in the Mississippi valley and what may be anticipated therefrom.—The formation of a great Central National Party in the West, necessary to the preservation of the *Union*.

A proper understanding of the peculiar elements constituting the character of a people is essentially necessary to those who would propose measures for the establishment of a public policy, whether in refference to their social, moral and political advancement or for the development of the physical resources of the country. To enable us fully to comprehend the character of a people we should trace their history to its origin, and study not only the genius of the race to which they belong, and the peculiarities of the institutions by which they have been governed, but also the physical character and resources of the country which they inhabit.

Belonging to the same race and governed by the same institutions before their migrations hither, it is natural, for those who have not studied man in all his varied conditions, to conclude that the people of these United States would present but little if any diversity of character. But owing in part to social causes, and in part to diversities in the physical character of the country, the inhabitants of different sections present traits of character widely differing from each other. The people of the South though possessing many traits in common with those of the North are yet in many respect dissimilar, but no two sections, perhaps, presents such strong points distinguishing their inhabitants from each other as do New England and the valley of the Mississippi.

The Western man in individuality of character, personal power, and resources within himself, to accomplish what individual man can achieve, upon "*his own hook*" is equal if not superior to any other man upon the globe. The causes which have tended to produce this extraordinary *individuality* of character in the Western man are not less apparent than those which have tended to establish that peculiar character, resulting from social combinations, so manifest in the New England man.

The vast extent, the rich resources of the Mississippi valley—especially in agriculture and the cheapness of land, enable every man of energy and vigorous constitutional health to provide for himself and family by his own individual labor; these have given to the people of this region characteristics which will be transmitted to their posterity; and, will have an influence upon their destiny for

ages yet to come. The habit of locating and opening up farms in the sombre forests and bright prairies of the West, ten, twenty, thirty, and even fifty miles from any other habitation, and, depending upon their own individual resources for almost every thing has given them a self reliance and proud independence which perhaps no other people ever possessed.

The earlier pioneers of the West depended, for the most part, upon the chase for the means of subsistance; this led them into the deep forests and broad prairies in pursuit of game where they had to contend with the elements of nature, beasts of prey and the savage Indian. The result was not only the cultivation of a spirit of self reliance but a certain heroic boldness and daring distinguished by great acuteness and caution, as well as a love of solitude and isolation from their kind. This disposition is beautifully illustrated in the life and character of Daniel Boone, the great hunter of Kentucky. Though originally from a civilized country, yet, after having been domiciled in the great Wilds of the West; when civilization again pressed around him, he, like the native Indian, removed yet farther towards the setting sun in pursuit of game and that solitude and isolation which had become necessary from habit. It might not be uninteresting to inquire how far contact with the native Indian contributed to the formation of the characters of our American fathers and their decendants. We know that this contact has thrown a gloom over the destiny of the ill fated Indian. Mentally incabable of bearing the blaze of civilization, thrown upon him by a forced contact, the native vigour of his mind seems to have declined and become confused, and his passions being stimulated in proportion to that confusion, he seems to have taken on all the degrading vices of civilization without having been benefitted by any of its virtues; and it is reasonable, we think, to suppose that some of the characteristics of our own western fathers and their decendants may be traced to their early contact with the red man, whilst he was yet pure and strong in his native wilds.

After the hunter came the farmer: and although a man of peace, still the broad expanse of country, sparsness of population, and a desire to procure the best and cheapest lands, led him to select a place of habitation remote from others; and, consequently, he continued to foster this spirit of INDIVIDUALITY and isolation.

But, there is another and prominent cause for this peculiarity in western character; it is the tide of emigration which has set in towards the West, for the last forty years, not only from the older states of the Union but from the various states of Europe also. People thus meeting from almost every part of the christian World; speaking different languages, reared under different skies, and educated under different institutions, customs and habits, find a difficulty in associating with each other, save as necessity prompts.

Another cause for the peculiarity of which we are speaking may be traceable to the physical features of the country, its mighty

rivers, its deep and sombre forests, its vast and rolling prairies, its hills and mountains, its plains, valleys, and lakes are all on a grand and magnificent scale, and impress the mind with the idea of a vast and stupendous whole, interlinked by a great inland navigation of more than twenty thousand miles in extent. Such a country cannot fail to make an impression corresponding with its own sublime features upon the minds and character of its inhabitants; and hence we generally find a disposition in western men to enter upon individual enterprises and transact business on a large scale: and even their thoughts, their hopes, and their future designs are in keeping and character with the physical geography of the country.

Considering the inconveniences and difficulties incident to the acquisition of a regular education in newly settled countries, the West has given proofs of intellectual vigour, moral power, and grandeur of imagination,—combined with a depth of understanding and poetic fervor—unsurpassed by any other people. This has especially been the case in the oratorical department of literature; in the pulpit, at the bar, and in the senate chamber, she has equalled if not excelled any other country. But the West is yet in her infancy: and until she comes to the maturity of a national manhood, America will never have a legitimate home national literature—a literature springing from the very heart and soul of the nation, adapted to the genius, the wants, the character, and peculiar condition of the people. Hitherto our literature has been borrowed from Europe, or at least, has consisted of a TAME imitation. Whilst we accord to the English, German, and French literature a superiority over any thing, which we can justly, as yet, claim as our own, yet we hold that it is not by a servile imitation or adoption of these that *we* can ever hope to have a true American literature. Such a literature must arise out of the hearts and spring from the very bosom of the people of this country: their character, their loves, their hates, their joys and sorrows, and even their very prejudices, must be comprehended by, and claim the sympathies of him who would write it.

England can justly boast of her great poets, historians, statesmen, philosophers, and scientific men, as forming a galaxy of glory and renown, worthy of admiration in all future time, yet, although these men wrote in the same language in which we speak and write, still they were Englishmen. However great the compass of their intellects, they wrote and spoke like *loyal Englishmen*; and whilst we are ready to admit that they may be read with pleasure and profit by every individual in every land, we do not admit that the literature of America can be built up or materially benefitted by imitating and adopting their peculiar styles, opinions or prejudices.

Our Eastern brethren who have hitherto given character to what Literature America has produced, have for the most part, resided on the Atlantic seaboard in juxtaposition, so far as Navigation can

make them so, to Europe and European influences. Many of them have been educated in European institutions, or at least considered their education as not finished until they have made the tour of Europe. It is not surprising, therefore, that they should have been heretofore too much under the influence of the warm breath of an European literature, to sympathize sufficiently with their own countrymen in the establishment of a purely American literature. Hence we say that the cradle of a pure American literature is, and must be, the central region of the Mississippi Valley.

To attempt to form an American Literature by a forced imitation or adoption of the styles and opinions of foreign writers, is about as vain as was the attempt of the Emperor of Russia to build up the Russian Drama by importing foreign plays and foreign actors and actresses.—The scheme failed, as all such schemes will ever do.

The literature of every people must, and will grow out of and become a part of the country they inhabit—be consonant with their feelings, views, ideas, and prejudices,—and hence, in time by the encouragement of their own, they will exclude all foreign literature except such as shall tend to build it up.

But we must return from this digression to the subject matter of our article.

Another remarkable feature of Western character is the entire absence of a disposition to run to the extremes of opinion upon any subject whatever. There is no instance of any of the absurd ultraisms of the age having started in the West. Your Mormonism, Abolitionism, Millerism, Nullification, and all other *isms* with which the country has been afflicted for years past, either started in some of the older States on the Atlantic seaboard or in Europe. Whilst the people of the West are not deficient in religious feeling, yet, they are somewhat disposed to be incredulous, and are therefore not very easily imposed upon by either the *fanatical* or designing —in fact, one peculiar feature of their character is a stern reliance upon their own individual conceptions of right or wrong, and an indomitable independance in thought and action, governed by that best element in the human mind—common sense.

Whilst we admit that the Western man is the personification of *individuality* of character—and presents many traits that must ever command admiration—a man of boundless energy, heroic perseverance and patriotic emotions, still he is deficient in one quality which may be regarded as necessary to the completion of his character, and the developement of the resources of the country —the want of a cultivated spirit of association, in other words, an associated character,—less reliance upon himself to accomplish a given object; more, upon the combination of numbers.—To illustrate the importance, not to say necessity, of the cultivation of a manly spirit of association and combination in the West as a great public *good*, is one of the objects we have in view in the present

article. Notwithstanding the many excellent traits which distinguish the Western man as an *individual*, he is nevertheless but one of many who are destined to break, subdue, and give tone and character to a mighty Empire, and it is only by the association and combination of numbers and the establishment of a systematic Western policy, that the varied resources of this great central region can be developed,—only thus can its present and future inhabitants receive that education and moral enlightenment required to render them capable of fulfilling their great mission, that of leading in the van of civilization, preserving and perpetuating our glorious institutions—and may we not say that only thus can their hearts be cultivated, refined, and attuned so as to render them responsive to the touch of christian truth. It is only by the combination and association of capital, talent, labour, skill, industry, and enterprise, that our great manufacturing establishments can be built up, and our great works of internal improvement *consumated.* Even the preservation of our glorious Union may ultimately depend upon that homogenity of sentiment and spirit of *unity* which shall be cherished and perpetuated by the people of this great valley.

In the disposition of the New England man to form social combinations for the purpose of achieving his object, we have a striking contrast to that individuality of character, which we have ribed as belonging to the man of the West. For whilst the latter is the representative of the *individuality* of character, the former perhaps is the best representative in the world of *associated* character and affords the best illustration of the influence which circumstances, education, custom, and habit may have in forming the character of a people.

From the time when the Puritan fathers landed upon the bleak rock of Plymouth to the present day, they and their descendants have been urged by an imperious necessity to cultivate a spirit of combined and associated action. Driven to exile by the spirit of religious intolerance and persecution, landing upon a bleak, wild, and uncultivated shore, and surrounded by beasts of prey and the native savages of the land, necessity as well as religious inclination led them to form social combinations for mutual support and protection against all the dangers and vicisitudes incident to their peculiar and perilous condition.

It is not surprising, therefore, that as time advanced and population increased, they should discover the power, and comprehend the advantages derivable from special combinations when formed to effect a given object—whether that object be social, moral or political. And the history and present condition of New England shows that she did understand this great problem and act upon it. Whilst her surface presents a rocky, and, comparatively, a barren soil, yet upon the bosom of this soil she has accumulated more

wealth in proportion to her population than any other people in the known world.

Almost every element, through the instrumentality and the application of science, has been made to bow to the superior will of man and minister to his wants and desires.

Every stream within her borders has been turned to some useful purpose, either as a motive power to drive her numerous factories, or some other object.

Every foot of soil capable of producing a blade of grass, has been made to yield even more than its original capacity, by a judicious culture. The whole surface of the country is literally webbed over with rail roads and other works of internal improvement: every child in the land receives an education at the public expense and, thus prepared, adds additional wealth to the State.

These are the necessary results of associated mind, brought to bear upon matters pertaining to the general good.

Destitute of great natural resources, still New England, through this principle of association, has made almost every other part of the world tributary in building up her own immediate interests. Nor have her social operations been limited to the accumulation of wealth, the building up of manufactories, the enlargement of commerce and the establishment of common schools merely: she has maintained the same spirit of enterprise and monopoly in the higher institutions of learning. Hitherto, even in the South and West, most of those who were able to extend to their sons and daughters a collegiate education, have sent them to the East to receive there what could and should have been given to them at home, amidst the scenes of their childhood, where, whilst preparing for future usefulness, they might have breathed the moral atmosphere of their country, imbibed its sentiments, and sympathized with its wants and necessities and thus have been prepared to ameliorate and relieve its condition when they shall have come upon the stage of action. But this monopoly of the institutions of learning on the part of New England, like her monopoly of commerce and manufacturing, is an unnatural state of things and cannot last. Even now there are symptoms of decline. The West and the Southwest are arousing upon this subject, and halls of learning that were nearly empty are now being filled to overflowing by the sons and daughters of the South and West.

Never before, perhaps, in the history of man, has a country so extensive, and abounding in so many resources as the Valley of the Mississippi, received and given birth to a population better adapted to its physical condition, or more capable of giving the best direction to its future destiny. There are concentrating here the better classes of population from, not only the older States of the Union, but also from all parts of civilized Europe; and who can predict the favorable results which may be justly expected to flow from this mingling of races. The excellent physical development,

and the moral energy of the English people, are doubtless attributable, in a great degree, to the intermingling of the Dane, the Saxon and the Norman, with the ancient Britons. Indeed, every nation in Europe, ancient and modern, that has been distinguished, either by its power or the arts of civilization has derived its greatness, at least in part, from similar causes. But in most of these, if not in all, this intermingling was forced by the conquest of one nation over another, and, consequently, several generations must have passed away before the prejudices and enmities thus engendered, were so far obliterated as to admit a national sentiment to prevail throughout the land. And hence, numbers did not always give strength to the nation, nor immediately promote its advancement in civilization.

If, under circumstances apparently adverse, the mingling of races and different families of the same race, has produced such favorable results in other countries, what may we not anticipate from a similar cause here, where, attracted by the richness of the land and the excellence of our institutions all come of their own accord, led on by the hope of improving their condition, and of securing to their offspring, the benefits derivable from the best political institutions, and the richest region of the whole world? Freed from the causes which prevented the development of many of the better traits of their nature in their own country, our foreign population experience a lively sense of the benefits which they enjoy, exciting them to imitate, and even to excel our native citizens in all things calculated to advance and improve the social condition. With such a spirit in the land, our country must advance with no ordinary stride. What a spectacle is presented here, for the admiration of mankind—the congregation of men from almost every land, met together in peace, moved by the same spirit, and acting in concert to build up and establish an empire whose influence shall be felt throughout the earth!

In no other part of the globe is there found a region equal in area to the Mississippi Valley, drained by one system of streams, and affording an equal extent of river navigation. Here must prevail one system of commerce, and one government uniting the sympathies of its inhabitants, and binding them together in one common destiny.

That which is most necessary for the improvement of our present condition, and to the attainment of the dignity which awaits us as a people, is a spirit of association in every department of life: the energies of the Western man when once under the guidance of this spirit, will be capable of the noblest and loftiest achievements of which imagination can conceive—no destiny too brilliant for their attainment, no obstacle so great that may not be surmounted if they are true to themselves and cultivate this great principle of moral power.

But aside from the development of the mental energies and physical resources of the West, there are political considerations of the greatest magnitude, imperiously demanding the cultivation and nurture of such a sentiment on the part of the people of this region.

It is apparent to the observation of every man of intelligence, that from the excitement upon the subject of Slavery and other causes between the North and the South, there have gradually grown up Northern and Southern *sectional* parties, antagonistic in every feature, and the tendency of which is ultimate disunion.

Hence, we say, there is an imperious necessity for the formation of a great central national party that "*shall ride the wind and direct the storm*," so as to preserve and perpetuate our glorious Union. That party can only arise in the Mississippi Valley, for this being the heart of the American continent, and embracing such a varied range of country, climate, soil and production, yet presenting such a perfect unity in all its parts as to prevent the establishment of a mere sectional party. We say, therefore, that a true Western party must perforce be national in every lineament and feature. Here then, is the true place for the formation of that great National party, whose destiny it is to preserve and perpetuate that richest heritage, ever bequeathed by *sires* to *sons*, the AMERICAN UNION!

Where is there a mind so dull, or a heart so cold, beating in the bosom of a true Western man, that does not glow with a manly pride, in contemplating the boundless field of enterprise and honorable renown which awaits our country, if the sons of the West are only true to their mission.

The following article from the pen of a distinguished citizen of Kentucky presents a plan for preventing revulsions in trade, by limiting the importation of foreign merchandize to the amount of produce exported. Could this end be attained, it would, doubtless, afford a remedy for most of the evils incident to foreign commerce, and establish our agricultural, manufacturing and mining interests upon a solid and permanent foundation.

The plan appears sufficiently simple to authorize the conclusion that it is susceptable of being carried into operation; but it is impossible to foresee the inconveniences or evils that may attend the introduction of an untried principle into the regulation of our foreign Commerce.

The principal objection to the plan, which has occurred to us, arises from the probability that the certificates of exportation would

fall into the hands of stock jobbers; and, like fancy stocks, be made a subject of speculation and gambling. Should such be the case, the profits made by the speculator in certificates, would, in the end, be paid by the producers and consumers without contributing to the revenue of the nation.

The object aimed at by the author is one of no ordinary importance; and regarding his plan as worthy of consideration, we commend it to the notice and examination of the legislator and political economist: and, moreover, we should be pleased to see an expression of opinion by the public press in regard to its merits.

It may not be practicable to devise any plan that will so regulate our foreign commerce as to prevent the imports from exceeding the exports without producing inconveniences and evils not less, perhaps, than those arising from over importation: but, in this age of discovery and invention we are unwilling to admit that no remedy can be devised for the frequent recurrence of such disastrous commercial revulsions as have in times past afflicted the nation. EDITORS.

ARTICLE III.

AN APPROACHING MONIED CRISIS—MEANS TO AVERT IT.

To the eye of any intelligent, and observing political economist, it must be evident that there is now making its appearance upon our commercial horizon, a cloud which will soon involve our country in trouble—which is to bring upon us another crisis, such as has uniformly followed in the wake of all the changes in our tariff, to the injury of home industry.

Our manufactories are stopping, and in lieu of their products which were paid for by our agricultural wealth, we are now importing foreign merchandize which after a while will drain off our specie. The mines of California may for a time supply the vacuum—but that remedy will not last long. Already the factories which have stopped in the United States, will probably diminish the home demand for cotton one hundred thousand bales—during the next year, and probably before another year passes, this amount will be augmented to one hundred and fifty thousand.* Valuing

* The effect of the tariff of 1846 was not felt until after 1847. In that year our home factories consumed 531,772 bales—in 1848–9 518,039—in 1849–50 487,769—showing a regular decline, and loss in two years of 44,003 bales. And this does not include the greatest stoppages of factories which have been since 1st of Sept. last, and will doubtless carry the diminution during the year ending next 1st Sept. down to 431,772 bales—or 100,000—and perhaps will continue until 50,000 more are added the year after.

In 1841 the amount consumed was, at home 267,850 bales. In 1842 the increased tariff ran up the amount in that year to 325,129 bales, with a continual and regular increase—up to 1847—when the tariff of 1846 began to operate, and

those at $50 per bale, here are 7½ millions of dollars. But when converted into merchandise, averaging all qualities, this cotton is probably quadrupled in value—making thirty millions, which will leave our country,—that by a wise policy might have been retained. You may add half as much more which will be lost in the iron trade, and enough in other branches to make up an aggregate of fifty millions. If such a policy be continued ten years, it will probably make a difference of five hundred millions of dollars in our national wealth.

That the imports from California, will probably enable us to bear this drain for some years, is no argument in favor of such a policy ; for by a policy, which would avoid such a drain, and give us the advantage of the California imports, what a magnificent consequence would follow. There would be among us, a surplus capital to develope all our wealth—open all our mines, manufacture our raw material, and make a net work of rail roads over all our country, doubling and trebling the net profits of every acre of land, and raising its value in the same proportion. The abundance of provisions, cotton, wool, iron and copper ore, and the raw material for supplying, when manufactured, all the wants of man, would also enable us not only to fill our home demand, and keep our wealth at home, but ultimately to divide with England the markets of the balance of the world, enabling us thereby, not only to give homes, but profitable employment to the oppressed of mankind from all other lands, as well as to our native population. On the contrary what is the picture which presents itself? How long can we stand a drain of fifty millions per annum? How long will it be before our present policy, if continued, will drain us of specie, close our banks, and as in 1839, bring general ruin again upon us? Probably five years or less will suffice for such a result, and no man who is not *determined to be blind*, can see any other result. If it do not happen, Messrs. editors, I agree to be branded as a simpleton, or as a dreamy madman. All the gold which can possibly come from California, cannot avert it. That truths so palpable, should not be apparent to our national legislators, seems really strange. It can hardly be, that they are not seen,—but sectional jealousies and animosities drive our rulers from the paths of wisdom, in a spirit of revenge. Like sailors on board a ship, who should fire guns down the hold at each other, which passing through the bottom, carry the whole crew down—are we in our sectional struggles, by venting our spite on each other, ruining our country. But I am straying from my purpose—which is in a short way, to shew the effects of our protective system—not that I believe, after all which has has been said by so much abler men, that I can satis-

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then a regular decrease commenced, and I doubt not will continue until a change in our policy takes place. By the returns of the Secretary of the Treasury our imports for the year ending June last, exceeded our exports over forty millions of dollars. T—.

fy a cotton planter, who has been indoctrinated in South Carolina, that if he pays 25 per cent. tariff, he is not giving ten bales of his cotton out of 40 to the manufacturer, for his protection—the ultimate reduction of the price thereby, of the imported article, and increase of the price of his cotton 33 per cent to the contrary notwithstanding, both of which are natural results. No, men whose minds have imbibed the stereotyped arguments of politicians, who deal in abstractions, that are shewn by experience to have no soundness or reality—which are shewn to be false by the fact that immediately after the enactment of every tariff giving reasonable protection to home industry, the increased prosperity of our country is as visible, as the effect of a rich coat of manure upon a barren field—men whom such evidences cannot convince, or whose passions will not permit them to see such proofs, it is useless to argue to in the usual way—but there are some facts, which are almost too strong to be resisted, even by those who are determined not to believe—as follows: Our free trade politicians argued originally, that if we would reduce our tariff, it would induce England to take her duty off our cotton. The protectionists said—protect our own manufacturers, learn them to make goods cheaper than England can, with this tariff on, and she must of necessity take off the duty—for it was a weight which she could not carry in the competition. This being done, the result was as predicted—England was forced to take the duty off of cottons. Then it was said—lower the tariff, and England will let in our bread stuffs free. The protectionists said—England will be driven to this in any event. As our manufacturers are protected they will gradually take the market from England, unless she can find aid from cheaper breadstuffs and provisions. The result of our competition forced her to abolish her corn and navigation laws, as a tax which her manufacturers could not stand. Instead of our owing the repeal of those laws to an enlightened policy, resulting from an enlarged liberality, as they would humbug us with the belief of, it is the result of our protective system and nothing else. Our manufacturers could stand even the tariff of 1846—provided frauds could have been guarded against, and provided the corn and navigation laws of England had remained in force. But England seeing this, was forced to repeal those laws, that her manufacturers might be fed more cheaply, consequently her goods could be sold cheaper, and at a mark, which American experience has not yet enabled them to come down to—which however it was rapidly approaching, and in a little more time would have reached. But the repeal of those laws, and the frauds committed by importing agents, in undervaluing goods, has deprived our manufacturers of the power of competing, and they are now one after another shutting up their establishments, and without a change of policy England will soon have the field to herself. The writer of this article, in the spring of 1849, went to England in the steam ship Canada with one hun-

dred and sixty three passengers, and a majority of those importers, of whom two thirds at least were English agents. Not only have they taken the business from our manufacturers, but understanding perfectly all the plans of defrauding our revenue, they have almost driven off all of our native importers, and taken that trade too to themselves. Such is the condition, to which we are getting reduced, and from which there seems no hope of relief, in the present prejudiced condition of the public mind, unless a new basis can be offered, for a change. That basis I think I can suggest. It may be presumption in me to think so, but the idea has possessed me for many years, and after offering it occasionally to my most intelligent friends for criticism, I have heard no objection offered, sufficiently valid to cause me to doubt its soundness, and this paper was commenced, with a view to introduce it, which I will herewith annex.

PLAN FOR AVERTING A MONIED CRISIS IN OUR COUNTRY.

With a large stream running out, and a small stream running in, the tub must finally become empty. My object is to make the two streams equal, and keep them so. But in any event to prevent the supplying stream from being less than the exhausting. When our imports exceed our exports for a certain time, as the difference must be paid in money, our specie of course becomes exhausted, and as bank issues are generally double the specie basis, as the specie is withdrawn for export, double that amount must be called in from the debtors of the banks. Thus, if our foreign indebtedness for merchandise, be fifty millions of dollars, which our exports will not suffice to pay—this causes a necessity for the withdrawal of that amount of specie to balance the account, and the consequence is the calling in of all the paper issued by the banks upon that basis, which is probably One Hundred Millions. This creates a stringency, and causes a panic, and ruin to a vast portion of our countrymen. This result it is my purpose to avert, by creating a sort of fly-wheel, or governor, to our commercial machinery.

The tariff, to a certain extent, could accomplish this object, were it not for the difference of opinion existing between the cotton growers and the manufacturers. The former believe that the protection to the latter is at their expense. I desire to obviate this objection, by putting into the pockets of the cotton planters, the whole amount of increased protection asked, and by a plan which I think cannot but be acceptable to them.

There are a class of men that nothing can satisfy. For such I do not write. It would be only waste of time. It is to the reasonable that I address myself. To such as really believe themselves aggrieved, and who, loving their country, wish to see her prosper,

and would gladly come into any measure calculated to produce that end, provided it was not done at their expense. Every one will agree, that over importation is an evil. Of course if importation can be confined, within the limits which our exports will pay for, it is a desideratum most devoutly to be wished. I would secure that object in the following manner.

Fix permanently on any tariff deemed proper—but so lay it, as not to be defeated in its objects, by the frauds of importers. Then issue to every exporter, certificates of the value of exports. Suppose they be one thousand bales of cotton, worth fifty thousand dollars, issue him five hundred certificates of one hundred dollars each, or a portion in smaller sums down to five dollars, like bank notes.

Now require every importer to furnish a certificate of export, to an amount equal to the home value of the imports. On which condition he should be at liberty to import at the fixed tariff of duty—but in default of such certificate, he should pay double duty. The operation would be thus:

A, a planter, ships to B, a merchant, 500 bales cotton. The sales are rendered from New Orleans at $50 per bale, and certificates of export reserved worth $5 per bale—or sold without reserve for $55 per bale, making a difference in the value of the cotton of $5 per bale. C, the purchaser of the cotton sends his certificates to New York for sale. D, an importer wishing to pay his duties on goods imported—in order to avoid paying double duties, goes to the office of the vendor of those certificates and buys them at market price, which will of course depend on the demand, and the demand on the amount of imports. If the imports do not equal the exports, the demand will be very little, the price almost nominal. But if the imports exceed the exports, then the price will run rapidly up, and check an excess of imports. With such an arrangement as this, there could never be a monied crisis in our country—for imports could not afford to pay double duty, and therefore would not exceed in value, the exports to pay for them, our manufactures would be permanently protected, and all the protection which the manufacturers obtained, they would pay the agriculturist for, and thus the great bone of contention between the parties would vanish. I ask, for this plan, mature consideration. I would be glad if you would call attention to it, from our leading Journals. If there be nothing impracticable in it, and I can see nothing, it would certainly be a permanent cure for an intermitent disease, of a most dangerous character, to which aur body politic is periodically liable.

If some should suppose the plan would be complicated, and liable to difficulties, I answer it could be made perfectly simple.

Establish a bureau at Washington for furnishing the certificates, in books of one hundred each, of $5, $10, $50, and $100, each being numbered, to run thus—

No. 1., ... Book No. 1., ... $5,00.

"This is to certify that A. B., has exported from the port of ———, in the ship ———, B. C., commander, produce, the growth or produce of the United States, to the value of five dollars, and by virtue thereof, is authorised to import an equal value (home valuation) of foreign merchandize or produce, at the lowest duties fixed by law. Witness the signatures of the commissioner and the collector of the port of ———.

——, Commissioner.
——, Collector."

Monthly reports would be made, to the proper department, of every cargo supplied, its total value, and the certificates issued of each denomination. Copies sent to the collectors of the different importing towns, would detect any attempt at forgery, if a list were made in a book of all denominations of certificates issued, and the numbers crossed as brought in. The arrangement might be made very simple.

We are indebted to the kindness of some individual, to us unknown, for a copy of the North American containing the following article on the commerce of western Africa. From the time of our first acquaintance with the objects of the colonization society we have regarded it as the most beautiful social scheme that has ever been conceived and organized by man: but, it was not until the successful application of steam to sea going vessels, that we felt much confidence in the success of this great moral enterprise. This, in our estimation, has settled the question of practicability; whilst the rich commerce of Africa, which will be developed by the introduction into that region, of a better civilization, will operate as a motive to the prosecution and consummation of the objects aimed at by those philanthropists who concieved and matured the brilliant plan of restoring the free colored population of this country to the land of their ancestors.

The demand for the products of tropical climes increases in proportion to the growth of population in the temperate zones: and this great principle in the social economy of the human race is destined to force upon Africa a degree of civilization sufficient, at least, to develop the resources of that region. Providence has confided to this nation the means of regenerating Africa: and regarding Colonization in a commercial point of view, merely, we hold that a wise policy demands of Congress the application of a reasonable portion of the means placed within its power to the encouragement of our African Commerce. Let us abandon the hitherto fruitless effort to suppress the slave trade on the ocean, and employ our ships in transporting the free black population from

this country: for we are fully persuaded that 20,000 American negroes, colonized at points judiciously selected on the coast of Africa, would do more to prevent the exportation of slaves from that country than all the vessels of the several nations now employed in that service. ED.

ARTICLE IV.

COMMERCE OF WESTERN AFRICA.

Africa, so long wrapped in impenetrable mystery—her very history a blank—and her inhabitants sunk by barbarism so low in the scale of humanity as scarcely to be recognized as social beings, is yet an object of peculiar interest to all civilized nations. Within the last forty years, that interest has been constantly increasing; and at the present moment, every ray of light is sought with an eagerness not to be excelled.

It seems to the writer, who has spent much thought and labor in the investigation of the physical peculiarities of a country, climate and people, which, from time immemorial, have barricaded the pathway of improvement and stayed the footsteps of progress, that there is but one way in which the civilization of Africa can be accomplished and her vast and mighty possessions of wealth (the extent of which is as yet unknown) rendered available; and that is, through the education and colonization, in their fatherland, of the free colored population of this country.

I believe therefore, that it is no less the duty than the advantage of our government, to give the infant Republic of Liberia—which has grown up under the fostering care of our citizens—every assistance in our power which shall in any degree tend to develop its national maturity. There is no longer a possibility of doubt as to the *great* benefit which will eventually accrue, not only to the benighted Africans, but to the nation or nations through whose influence they receive enlightenment. Ere long the ships of commerce will begin to plough the rivers of Africa and stretch out Briarean arms to receive her commodities—the products of her soil—the bountiful gifts of nature, which, so far as we can now judge, have been bestowed upon her with a lavish hand.

Her productions are indeed many and multifarious. A few remarks on the most important may not be unacceptable to your readers.

COTTON.—The demand which exists all over the world for this staple, which demand is constantly increasing without a corresponding increase in its production, cannot fail to make that region of immense consequence in a commercial point of view, which can with ease and facility raise it. Africa promises largely in the supply of this *momentous* material. Thirty varieties have been found

growing spontaneously. Hon. S. A. Benson, in a recent letter from Bassa Cove, says, "though his Cotton (some sent from Liverpool for planting) is of a superior kind, yet it does not equal that raised by the natives far in the interior, a specimen of which was brought down a few days ago from the Pessa country. I have sent back, about five days travel, to procure seed to plant." Dr. Lugenbeil states, "I have seen trees growing in Liberia yielding cotton equal in quality to the best I ever saw from the valley of the Mississippi." Mr. McQueen testifies—"There is no country in the world which can produce such an immense quantity of cotton, of a quality so fine: it is finer than any description of cotton we know of: common cotton raised in Africa I have had in my possession, which was equal to the finest quality of American growth." It is also worthy of remark in this connexion, that the untutored natives manufacture cotton goods extensively. They are spun (without any wheel) from their native cotton, and woven in a strip from four to fifteen inches wide. Several experiments are now in course of progress which, it is expected, will solve the question whether Africa can produce cotton in sufficient quantities to make it a profitable article of export. We can conceive it will become the competitor of the United States for the supply of the American market as well as that of Europe. This is merely an opinion, however, and it is to be received accordingly.

Coffee.—The whole land is covered with it. Isolated trees, and without cultivation, have been known to yield from ten to twenty pounds of clean, dry coffee at one picking; and, however incredible it may appear, yet it is the truth, that a single tree in Monrovia yielded four and a half bushels in the hull at one time, which, on being shelled and dried, weighed *thirty one pounds.* In Erravia and Kaffa, an ass's load (200 lbs.) can be purchased for about a dollar? The reason why the "Mocha" coffee is so good is that it actually comes from the Southern parts of Africa! Grand Bassa county has already planted 30,000 coffee trees, which will bear fruit from thirty to forty years.

Sugar.—The cane grows with unrivalled luxuriance; and as there are no frosts there to impede or kill it, it can be brought to great perfection. Owing to the low price and the necessity of very expensive machinery for its manufacture, it is not probable that Sugar will soon become an article of exportation. However, it may be raised in sufficient quantities for their own consumption. Should men of enterprise and capital embark in this business, they can, in all probability, make it yield a handsome return. It is recorded in history, that before the discovery of America, the best sugar estates in existence were on the coast of Africa.

Pepper of all varieties is indigenous, and may be procured almost anywhere. It grows on bushes four feet high. In quality it is perhaps not equalled by that raised in any other clime. "It is not uncommon to see a native with a bunch of pepper in one

hand and a roasted cassada in the other, taking, with each mouthful of the latter, a pod of the former, one of which pods would serve to pepper a full meal for a person not accustomed to its use." This will be good news to those fond of seasoning." We know of no reason why more of this kind of spice is not exported than the amount here after specified.

Arrowroot is one of the most common plants on the western coast. From the ease with which it is raised, and its being one of the most valuable articles of food, it may be made an important element of trade. A farmer in Liberia assured a gentlemen that he received one hundred and thirty pounds from the one sixteenth of an acre of ground.

Palm Oil is procured alone from Africa. It is the product of the majestic palm tree—the ancient and acknowledged symbol of fertility. We find, from official documents, that 63 vessels, with 19,163 tons of oil, entered various ports in England in 1847, and 55 vessels, with 18,667 tons, in 1848. This is a large amount, when we bear in mind the rude mode in which it is made, which is in this way: A square pit is made in the ground, something similar to tan pits in this country, and this square place is filled with palm nuts, which are taken down ripe from the trees, and the females trample the oil out in the sun with their feet. They continue tramping until the nut and oil form one mass. They then extract the oil by allowing water to run into this place, and take it all up with the palm of the hand, scraping it into a calabash. By this tedious and difficult process, an immense quantity is lost by its running into the ground. There is also a great deal left attached to the nuts. The oil is obtained from the surface of the nut and not from the kernel. When we consider the great quantity of this oil which may be manufactured by proper machinery and the hand of civilization to direct and govern it, the wonderful productiveness of the palm tree, and the boundless extent of territory in which it grows spontaneously and the myriads of inhabitants which swarm these fruitful forests, ready to labor for the smallest consideration; our judgment is that this oil will yet form one of the heaviest articles of traffic in the commercial world.

Gold is obtained along the coast from Gambia to the Bight of Benin. The annual export of this precious metal is at least £300,000 per annum. The amount of gold dust imported into Liverpool alone from Africa, in 1846, was valued at £15,000 sterling. Further research—especially if pursued by men of science—may prove her to be as rich in mineral wealth as California ot Peru.

Iron.—Such is the purity of the iron ore obtained by the natives immediately in the vicinity of Liberia, and which they describe as being abundant, that they have no furnaces—they need none. All their agricultural and war instruments are made by them of ore, so pure, that when heated, it becomes at once suffi-

ciently malleable to admit of being wrought into any shape or form.

Ivory.—Some idea can be gained of the immense quantity of Ivory procurable in Africa, from the countless number of Elephants existing within her borders. A drove of 700 to 800 have been known to visit the Bonny country at one time. They all have tusks, some of which have been ascertained to weigh 120, 130 and 140 pounds each.

Various.—Cocoa, Tobacco, Beeswax, Ginger, Rice, Dye-stuffs and Timber, are imported in considerable quantities into this country and Great Britain—especially into the latter.

Statistics.—From a late return of the imports and exports of Great Britain from and to the coast of Africa, we compile the following table of imports in 1846—the last year reported, viz :—Cocoa, 2459 lbs. ; Coffee, 24,354 do.; Ivory, 1438 cwts.; Ginger, 6629 lbs.; Hides, 874 cwts.; Palm Oil, 360,452 lbs. or 18,000 tons ; Pepper, 98,166 lbs. ; Rice, 1807 cwt.; Beeswax, 5226 cwts.; Tobacco, 1224 lbs.; Teak wood, 7686 lbs.; Mahogany, 270 tons ; Gum, 20 lbs.; Undressed skins, 7013 in number.

The exports in 1845 were as follows :—342 tons of bar iron, 271 tons of cowries ; 203 tons of copper rods ; 4059 bales and cases of cottons ; 691 puncheons of earthenware ; 25,959 barrels of gunpowder ; 2477 cases of guns, containing 49,560 muskets ; 195 tons of hardware ; 7,392 tons of salt ; 51 M. of stone bottles ; 60 bales of silks ; 1,574 hhds. of tobacco ; 3,733 hhds. of rum ; 81 bales of woolens ; amounting in value to £332,144.

The custom house value of the exports in 1846 was £421,620 ; in 1847, £518,420—thus showing a steady and rapid gain.

During the same period 159 vessels, comprising a tonnage of 37,219 tons, cleared for Africa, and 185 vessels, constituting a tonnage of 42,290 tons, entered inward to England from Africa. Last year and the present have no doubt added largely to the number of vessels, tonnage and men, employed, but of these we have no positive information.

Trade.—The natives of Africa are much disposed and apt for commercial pursuits. A disposition prevails throughout all the African States. This is verified in the record of distances to which slaves are carried. Instances are known, where the markets have been obstructed on the West Coast, they have been carried to the East Coast ; and when obstructed on the East Coast, they have been carried to the West ; from the very centre of Africa they are brought to the two Coasts, a distance of 600, 700 or 800 miles, and even across the Great Desert, some 1000, or even 1500 miles !

There seems to be no standard of value by which trade is regulated. The whole trade of the coast consists in a system of barter of commodities. Every large tooth of ivory, quintal of camwood, or cask of oil, must command, in most instances, a moiety of every article used in that commerce. The want of one important article of trade, as, for instance, a musket, tobacco, or even a cutlass or

flints, will prevent the trader from making a purchase, even though he may offer four times the value of the article in question in other merchandize. The process of bartering is as follows: On reaching a town, the first step taken is to have permission to trade. Then the natives come on board, and you show them a selection of what goods you have. If they approve of them, they bring their produce. In some cases you trust them with certain proportions of the goods, which they generally return in produce, perhaps, on the next visit of the vessel. In this way cargoes are collected. It is a very difficult and tedious process.

The native traders on the beach are merely the factors for the people of the interior, and have no capital to trade upon; consequently, the foreign trader is obliged to land his goods to be sent into the interior and exchanged for his return cargo. The whole cargo, therefore, is at the mercy of these people: and where there is no protecting power at hand, they are solely governed by what they may deem their interest as to the amount which they will refund. If the merchant is an old trader on the coast, and it is supposed he will continue the business they are anxious to secure a continuance of his custom, and probably may pay him up well. But, on the other hand, should it be a transient vessel, and one which it may not be supposed will visit the coast again, but a poor return will be received for the cargo landed.

Protection.—In conclusion, we are led to notice two topics, the faithful prosecution of which are as necessary to the continuance and enlargement of a legitimate commerce on the coast of Africa, as food is to the support of the human body.

First. Our government, and that also of Great Britain, must keep up a more powerful and active naval force on the coast than they now have stationed there. These vessels should visit those ports where trade is most largely prosecuted, to form treaties of commerce, more or less perfect, with the African chiefs and head trade men: to see the conditions thereof well fulfilled: to demand satisfaction for all trespasses committed by the natives on the persons or property of traders; and to relieve merchant vessels, in cases of wrecks, pestilence, or any other disaster. At the same time their very presence will prove a check on the accursed slave trade.

The substitution of steam vessels in place of those now in use, will of course add greatly to their efficiency. It is very evident to every candid and impartial mind that instead of the "cry" now put forth by a few of the professed philanthropists of our mother country, they should advocate and demand, as alike due to the cause of humanity and interest, that the squadron should be strengthened by additional vessels, men, and power. Should England, in a mistaken course of policy, withdraw her squadron from the coast, we should soon have pirates on the seas, the rivers full of slavers, and legitimate trade utterly broken up and destroyed.

Surely no lover of his race would like to behold such a catastrophe as that. Such would be the inevitable consequence if so fatal a step should ever be taken by Great Britain or our own people.

Second. Experience has established the fact that the white man cannot visit Africa with safety. The climate—not the native—is his great enemy. On the contrary, it is the *home* of the negro. The natives survive to an almost patriarchal longevity. Her sons then are the agents appointed for her restoration, and they shall be honored as the instrument of bringing their fatherland back into the family of nations. The Republic of Liberia has taken the lead in this glorious work, and with the fostering aid and protection of the various governments on earth—especially that of our own country—will continue to prosper and achieve new triumphs —triumphs not won at the point of the sword, but by the higher, nobler and gentler power of Christian light and truth. Let them have the generous and hearty support of our rulers and citizens—the natural stimulants to exertion—the animating accompaniment of trade and intercommunication—a supply of the implements of husbandry—machinery for the preparing of their mighty resources, and facilities for the disposal of their products. Accord to them that deference which shall enable them to know and feel that they are not an exception to the law of universal sympathy—in short, let the full tide of civilizing influences roll through Liberia—the broad and open portal through which 160,000,000 human beings, now dwellidg in darkness and degradation, are made accessible—and we shall ere long see Africa, benighted and oppressed Africa, blossom as the rose. Wm. C.

Article V.

THE RED RIVER OF THE NORTH.

Until within a few years past the opinion prevailed that, owing to a scarcity of timber, that great region lying between the Mississippi and Missouri rivers and north of the State of Missouri, was scarcely susceptible of being inhabited by a civilized race. But the settlement of 200,000 inhabitants in Iowa, and the explorations of the vallies of the Jaques and St. Peters rivers, by M. Nicollet; and, the more recent exploration of the valley of the Red River of the North, by Captain Pope, establish the conclusion that, in fertility of soil, this region is not excelled by any other part of the Mississippi valley of equal area, and, also, that timber, in almost every part, is sufficiently abundant to supply all the purposes of a farming population. Nor is any portion of this

vast region very remote from navigation: for, besides the Mississippi and lake Superior on the east, and the Missouri on the west, it is watered by the Jaques, Desmoins, St. Peters, and Red rivers: all rising in the central part, and flowing in different directions; and all susceptable of being made available for the purposes of navigation.

The following extracts from the official report of Captain Pope will, we think, be found interesting.

"The country which I have in part traversed during the past summer embraces about one-third of the Territory of Minnesota, and lies to the north and east of the St. Peter's, and to the north and west of the Mississippi, including within its borders about sixty thousand square miles. I shall commence with a general description of the country within these limits, referring those desirous of more detailed description of peculiar localities to the detailed journal which follows.

The Territory of Minnesota, as at present organized, embraces all that portion of the northwest which lies to the north and west of Iowa and Wisconsin, and contains about one hundred and sixty thousand (160,000) square miles. The first great peculiarities which strike the attention of those examining the northeastern portion of this immense extent of country are the wide valleys of two great rivers—the Mississippi and Red river of the North—which, heading within a few miles of each other, discharge their waters, respectively, into the Gulf of Mexico and the Arctic sea. To the east, the western extremity of Lake Superior projects far into the Territory, affording several fine harbors; and to the south stretch the fertile valleys of the St. Peter's and Jacques rivers—the one heading within thirty miles, the other approaching within ninety miles, of the head of navigation of the Red river of the North.

Even a hasty glance at the maps of this vast region cannot fail to impress one with the immense natural facilities thus presented for discharging the produce and manufactures of these great valleys, to the east through Lake Superior into our great Atlantic cities, and to the south through the Missouri and Mississippi, into the Gulf of Mexico.

When it is also known that the Mississippi is navigable for at least four hundred miles of its course within this Territory, the Red river of the North nearly an equal distance, the St. Peter's, with an improvement at one point only, for one hundred and twenty miles, and the Jacques river through nearly three degrees of latitude, it becomes a matter of vast interest to the world to ascertain the capacities for agriculture and manufactures of a country so bountifully supplied by nature with outlets for its productions.

The examination of a portion of this Territory during the past summer has convinced me that nature has been even more lavish in her gifts of soil than in her channels of communication, and

has still left to the enterprise and industry of man to complete what she has so well begun.

The immense number of lakes laid down upon the inaccurate maps of this Territory now in existence, and which seem to indicate a low and swampy region, are even more numerous than they are represented, but are surrounded by a gently undulating country of the most fertile soil, and abundantly supplied with all the forest trees common to so northern a latitude. The streams which connect these lakes, and which are the sources of the rivers which intersect the country in all directions, abound with rapids, which afford water-power as available as it is inexhaustible. I have traversed this Teritory from north to south a distance of five hundred miles, and, with the exception of a few swamps, I have not seen one acre of unproductive land.

For the purpose of giving a description of that portion of the country over which I have passed, it will be better to divide it into three portions, which present physical features entirely distinct from each other—first, the country east of the Mississippi, and between that river and the St. Croix; second, the country west of the Mississippi, and lying between the Mississippi, the St. Peter's, and a line from the head of the St. Peter's to the head of the Mississippi; and, third, the lower valley of the Red river of the North.

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The second division, embracing the country between the Mississippi, the St. Peter's, and the head of navigation of the Red river of the North, contains the sources of all the tributaries of the Mississippi from the west, of the St. Peter's from the north, and of the Red river from the south. It is a gently undulating country, high and rolling in some places, abounding in beautiful lakes, and containing about equal proportions of prairie and timber. The tributaries of the St. Peter's, Mississippi and Red river of the North overlap each other in all directions, and have their sources in the numerous lakes which abound in this region. These lakes are connected with each other by small streams, varying from fifteen or twenty yards in width and three or four feet in depth, to a few feet in width and a few inches in depth. They, as well as the lakes, possess gravelly or sandy bottoms, and are so numerous, and contain so many rapids, that I doubt if one could travel ten miles in any direction without finding beautiful locations not only for agricultural, but manufacturing, purposes.

The soil is the black vegetable mould, several feet in thickness, with various proportions of sand—sufficient, however, to give the necessary warmth.

The pineries of the upper Mississippi are mostly upon its tributaries, and I think are not found on the west side further south than the parallel of 46° north latitude. They alternate, even where most abundant, with much larger tracts of fertile country. The facilities of communication are good throughout, and I know no

country on earth where so many advantages are presented to the farmer and manufacturer. They have not only the advantages of fine soil, unlimited water-power, and a climate proverbially healthy, but they have opening to them on all sides the shortest and most convenient channels by which to throw to the Mississippi and Missouri, and at points navigated by steamboats, all their produce and every article of their manufacture.

I have no means of judging of the temperature of this region, as compared with the country to the east and south; but I am much inclined to the belief that on the southern and eastern slopes of this division the climate will not be found to differ greatly from that of Iowa or northern Illinois.

I am at a loss to express myself with sufficient force to do justice to the beautiful country embraced within this division, which is perhaps the most remarkable in the world for its peculiar conformation and vast productiveness, and I can only attribute to ignorance of its great value the apathy and indifference manifested by the government in failling as yet to extinguish the title of the Indians, and to throw open to the industry of the American people a country so well adapted to their genius and their enterprise. From its great fertility, fine water-power, and the facilities for immediate and rapid communication with the Mississippi and St. Peter's, I regard this division as being by far the most valuable portion of Minnesota, and the numerous emigrants who are arriving in the Territory, and who are awaiting with anxiety and impatience an opportunity to purchase these valuable and productive lands, will compel the United States to adopt some speedy measures to extinguish the title of the Indians, and to throw into market a portion at least of this fertile country.

The valley of the Red river of the North, which is the third division I have made of the Territory, is about three hundred miles in length from north to south, and one hundred and fifty in breadth from east to west, and is bounded on the west by the dividing ridge between its waters and those of the Missouri, called the "Coteau des Prairies," and on the east by a line from the head of Red river through the most northeastern point of Red lake. In this whole extent it presents an almost unbroken level of rich prairie, intersected at right-angles by all the heavily timbered tributaries of the Red river from the east and west—the Red river itself running nearly due north through its centre, and heavily timbered on both banks with elm, oak, maple, ash &c., &c. This valley, from its vast extent, perfect uniformity of surface, richness of soil, and unlimited supply of wood and water, is among the finest wheat countries of the world. The exploration of the past summer was on the west side of the river, and the route pursued about half way between it and the "Coteau des Prairies" on the west. We were thus enabled to cross, about their centres, all the tributaries of the Red river from the west, and to form very correct opinions

of the agricultural and geographical features of the western half of the valley.

The principal tributaries from the "Coteau des Prairies" are the Wild Rice, Shayenne, Elm, Goose, Turtle, Park, and Pembina rivers. Almost all these streams are navigable in the spring and summer fifty or sixty miles for flat boats, and brobably in high water for vessels of much larger draught, and are well timbered with elm, oak, ash, &c. &c. With their tributaries, and the smaller streams which flow into the Red river, they intersect the valley at distances of ten or twelve miles apart; and although on the west side of the river the greater proportion of the country is level prairie, I am satisfied a sufficient quantity of timber can be found for all the uses of cultivation. As might be expected from its alluvial character, there is no pine timber in the valley of the Red river, but the oak and elm there attain to a size which I do not think I have ever seen elsewhere.

The east side of the valley has never been examined, and I should strongly represent to the government the necessity of being well informed as to the value of that portion of the country at as early a period as practicable. I have been informed by the half-breeds who have traversed portions of it, that it is equally fertile with the west side, and is much better timbered. I ascended the Red river in boats from our northern frontier, at Pembina, to Ottertail lake, and found it navigable for boats of three or four feet draught for nearly four hundred (400) miles of its course, and to a point within one hundred and ten (110) miles of the navigable portion of the Mississippi. For two hundred and fifty miles of its course from Pembina the bottom is of soft mud, and but one obstruction to navigation, and that of too little consequence to be noticed, occurs in the whole distance of four hundred (400) miles.

The head of navigation is at a point in the vicinity of the mouth of the Sioux Wood river, and distant about forty (40) miles from the St. Peter's. I had not the time to make any examination of the Sioux Wood river, which, with its source, Lake Travers, approaches within one mile of the St. Peter's; but I ascended it a mile or two, and found a uniform depth of three feet. As this stream passes through an alluvial level country, I am inclined to believe that in the high waters during the spring it would be found navigable for small boats to the southwestern extremity of Lake Travers. I took particular care to ascertain at what periods of the year the Red river was frozen, and when clear of ice; and I am convinced that it is navigable for four months, and at favorable seasons for five months of the year. The descent to the north of the dividing ridge, embraced in the second division of the country I have made, as it looms up from the valley of the Red river, presents the appearance of a range of lofty hills, which, upon a nearer approach, dwindles into a gentle slope, probably two hundred feet above the level of the country to the north.

But two objections can be made to the belief that the valley of the Red river of the North, as a wheat country, is unsurpassed. The one is the coldness of the climate, and the other its distance from market. To the first of these objections it can be said, that but a very small portion of Minnesota is north of the rich wheat regions of Canada, and facts go to prove that Canada is neither too cold for the cultivation of grain nor for the comfort of the inhabitants. The second is a much more valid objection, but it is one which a little attention from the government can entirely remedy. It has been with this view that I have recommended, as will be found, grants of land for the construction of railroads to connect the head of navigation of Red river with Lake Superior, and with the Mississippi below the falls of St. Anthony. The whole valley of the Red river, as well as of the country between it and the Mississippi, will thus be brought as near, or nearer, our eastern and southern markets than the interior of Iowa, Wisconsin, or Illinois. As regards the country west of the Mississippi and north of the St. Peter's, which is included in the second division I have made, I am of opinion that the climate would be too severe, and the seasons too short, for the successful cultivation of corn, but all other grains would be produced most abundantly. The wild rice abounds in the lakes and streams, and is a favorite article of food with the Indians. It is very palatable and easily collected, and I do not doubt would prove a valuable article of commerce. The sugar maple is very abundant along the lakes, and large quantities of the maple sugar are manufactured by the Indians. The white oak, however is most common, and as it is necessarily hardy, and grows to a large size, it is peculiarly adapted to the building of vessels.

The valley of the Red river is entirely alluvial in its formation, no rocks in place being found in its entire length within the territories of the United States. It abounds with boulders or erratic blocks of granite, which in all cases are very much rounded by the action of water. They are most abundant upon the highest ridges of the prairies, and cause all the rapids in the small streams tributary to the Red river, the St. Peter's, and Mississippi. About seventy (70) miles north of our frontier (at Pembina,) a secondary limestone appears at the falls of the red river, which is unquestionably the basis of the whole valley, but at what depth below the surface at different points it is impossible to say. There are no rocks in place found west of the Mississippi along the route pursued by the expedition. * * * * * *

The settlements along the Red river of the North were made about the year 1812, and extended up the river to the parallel of 47° north latitude, (about.) It was supposed at the time that the country in which they had located themselves belonged to the English government, but, upon ascertaining to the contrary, the colony was removed to points lower down on the Red river, and within the

known boundaries of the English possessions. This colony was established by Lord Selkirk, upon a grant of land from the Hudson's Bay Company, but the rapid increase of half-breeds, resulting from the connexions between the colonists and Indians, and the constant rivalry in trade with the Hudson's Bay Company, occasioned the most serious disturbances, and several encounters took place, in which many were killed and wounded on both sides.

The half-breeds at present number about eight thousand, (8000,) and, with the exception of about nine hundred who are collected round the trading post of the American Fur Company at Pembina, they reside upon the English possessions, and are entirely under the control of the Hudson's Bay Company. * * * * *

Our settlements in this country consist at present of eight or ten houses of the half-breed French, the trading house of Mr. Kittson, and the house of the Catholic priest; the great body of the half-breeds still living in lodges, from the uncertain tenure by which they hold their lands and the entire want of protection and encouragement exhibited by our government. The settlements under the dominion of the Hudson's Bay Company begin at our northern boundary line, two miles north of the mouth of the Pembina river, and extend along both banks of the Red river of the North to its entrance into Lake Winnepeg, one hundred and twenty (120) miles further north. There are two military posts in this distance: one at the mouth of the Assiniboin river, sixty miles north of our frontier, called Fort Garry; and the other, called Fort Douglass, fifty (50) miles further north."

The author describes the Shayenne, a branch of the Red river, as being 60 yards wide, and about 14 feet deep where he crossed it, fifty miles from its mouth: and thinks there is no doubt of its being navigable by barges 150 miles. On his return he ascended the Red river from Pembina to Ottertail lake a distance of 462 miles: he describes the river as maintaining a width of 150 yards, and a depth of 15 feet from Pembina to the mouth of Red lake river, 154 miles. And, according to his table of soundings, he found no place less than six feet below the junction of Sioux Wood and Ottertail river, 417 miles from Pembina. He found the water four feet deep in the Ottertail, from its mouth to the lake; of which, he gives the following description:

"On the morning of the 17th we arrived at Ottertail lake and encamped near its northeastern extremity, at the remains of several small trading-houses. Upon entering this lake from the southwest the woods to the northeast, although very large, are not visible, and it is by far the largest sheet of water we had yet seen. It is about ten miles in length from southwest to northeast, and four or five miles in width, filled with fish, with clear, pure water, with a depth of twenty feet, and no islands. The fish are white, said to be the same known as the white fish of the lakes, so celebrated for their flavor.

To the west, northwest, and northeast, the whole country is heavily timbered with oak, elm, ash, maple, birch, bass, &c., &c. Of these the sugar-maple is probably the most valuable, and in the vicinity of Ottertail lake large quantities of maple sugar are manufactured by the Indians. The wild rice, which exists in these lakes in the most lavish profusion, constitutes a most necessary article of food with the Indians, and is gathered in large quantities in the months of September and October. To the east the banks of the lake are fringed with heavy oak and elm timber to the width of one mile. The whole region of country for fifty miles in all directions around this lake is amongst the most beautiful and fertile in the world.

The fine scenery of lakes and open groves of oak timber, of winding streams connecting them, and beautifully rolling country on all sides, renders this portion of Minnesota the garden spot of the northwest. It is impossible in a report of this character to describe the feelings of admiration and astonishment with which we first beheld the charming country in the vicinity of this lake; and were I to give expression to my own feelings and opinions in reference to it, I fear they would be considered the ravings of a visionary or an enthusiast."

Other localities are described with a similar degree of enthusiasm: and had we not read Nicollet's enthusiastic description of the Undine region, and other parts of Minnesota, we should have suspected our author of being under the influence of a peculiar hallucination in respect to this country.

But we must close these extracts with the following paragraphs, with which he concludes his remarks on the Red river of the North:

"This vast valley of the Red river, extending three hundred miles from north to south, and about fifty miles to the west of the river, is among the most fertile tracts of country I have ever seen. From its very level character and great productiveness it is peculiarly adapted to the cultivation of wheat, oats, barley, &c. Vegetables are produced most abundantly, and the potatoe attains a size and flavor rarely met with further south. Considerable quantities of wheat and barley are raised north of our frontier, and the flour which is made at the Selkirk settlement, at the mouth of the Assiniboin river, is exceedingly good.

It is said by those who have passed some years of their lives in this part of the country that the small corn can be raised successfully, but I am much inclined to believe that corn would be among the least valuable of the productions of the valley of the Red river. Buffalo range in immense herds between the Pembina and Shayenne rivers, are found in great numbers, winter and summer, along the Red river, and are frequently killed in the immediate vicinity of the settlements at Pembina. The elk, the antelope, the moose, and all possible varieties of wild fowl, are found in great abundance, and afford an easy means for the support of the Indians.

The furs which are found in this valley are the beaver, marten, otter, fisher, bear, elk, minx, muskrat, lynx, buffalo, wolverine, red and silver gray fox, &c., &c.

The climate is far more healthy than that of the wheat regions of Iowa and Illinois, and the numerous and available communications by water, which exist in the most profuse abundance, would give to those cultivating the soil an easy outlet for all their surplus produce.

As a grazing country it is remarkably fine, as may easily be understood from the fact that the expedition of the past summer made a march of nearly a thousand miles with heavy wagons over a country without roads, and heavy from continued rains, and the wagon horses subsisted during the whole period upon the prairie grass.

The coldness of the climate will be no great objection to that class of persons emigrating to Minnesota from New England, and I can scarcely doubt that in process of time the valley of the Red river will become a most valuable part of the United States."

We regard the settlement of the great delta between the Mississippi and Missouri rivers as destined to produce an important revolution in the commerce of the west; and, indeed, of the interior country. This region is capable of sustaining a population of forty millions, who must look to the south for a market; and the exchange and distribution of ths vast volume of commodities produced and consumed by this population must take place at the commercial emporiums of the west. And in view of the formation and establishment of this new system of commerce we esteem it to be the true policy of the people of the southern and central portions of the Mississippi valley to commence and press forward, without delay, a system of internal improvements calculated to facilitate the commercial and social intercourse between the northern and southern districts west of the Mississippi river.

The following article, from the pen of E. F. Pittman of the firm of Yeatman, Pittman & Co., commission merchants of St. Louis, on the culture and preparation of Hemp has already been published in pamphlet form; but regarding the subject as one of no ordinary interest to the agriculturists of the west, we deem it our duty to aid in extending the circulation of what we esteem the most complete and useful document relating to the economy of hemp growing in the western states that has come within the range of our observation.

It is known to every intelligent planter that a very small increase in the quantity of hemp is calculated to depress the market; and,

consequently the only way the quantity and value of the crop can be enlarged is to improve its quality. By practicing upon this principle for a few years they will not only drive European hemp out of the American markets, but be able to compete successfully with the European grower in the markets of Great Britain, if not on some parts of the continent.

We agree with the writer in his views in respect to the inspection of hemp; and trust that our General Assembly, now in session, will take the subject in consideration. EDITORS.

ARTICLE VI.

No. 1.

THE DETERIORATION OF MISSOURI HEMP, AND SOME OF THE REASONS WHY.

As the culture of hemp in Missouri is an important branch of agriculture, it should claim more attention than has been given it, both by the producers, in preparing it for market, and the Legislature in guarding it from gross frauds and impositions in baling.

A few years since, most of the farmers handled their hemp comparatively well, and sent it to market in something like merchantable order. It could then be sent to the eastern markets in large quantities, to come in direct competition with a foreign or imported article, and would sell readily at a fair price. Our American hemp was fast working into favor with manufacturers, as it cost less than the imported, except *Jute*, which is a very inferior article.

At that time it stood high in Kentucky, Tennessee and Alabama, and, indeed, wherever the article was sent, it was in good repute. How it is, and why it is, that the Missouri farmers did not keep up their hemp in quality to the high standard to which they had so proudly attained, is more than I can divine. However, I suppose there are many causes that have helped to bring about the sad change in the management of the article, which has reduced it to a level with Kentucky hemp, if not below it.

One reason that the farmer frequently gives for not cleaning the *wood* entirely out of the hemp, as they should, is that they have to give 112 pounds for 100, or that a ton of hemp is 2,240 pounds, when it should only be 2,000. Thus, if hemp be worth $80 per ton, the farmer has to give 2,240 pounds for the $80, but declares, (there are some very honorable exceptions, however,) in his wrath that neither the buyer nor manufacturer shall make anything by this mode of calculating, for he will have *wood* or shives, *tow*, *strings* or *trash*, or any thing, to make up this *extra* 240 pounds.

Although you and your readers may laugh at the idea of any hemp raiser being so ignorant of the laws that govern trade, as to

imagine for a moment that his crop of hemp would yield him more money if the *custom* was to give only 2,000 pounds for a ton, yet it is even so, as the writer has heard expressed on divers occasions.

An article of produce is worth just *so much*, to a manufacturer, and no more, and that price which he can afford to pay, he can calculate to a fraction, knowing how much he can get for it when manufactured, with the cost of manufacturing, &c. What, then, does it matter to a manufacturer whether he buys his *lard*, his *wool*, his *cotton*, or his *hemp* by the 50, the 80, the 100, the 112, the 150 or the 500 pounds? He can afford to give just so much for one pound, and for 100 or 5,000 pounds, in the same proportion.

The law governing weights and measures is of course arbitrary, but the matter once settled, it then becomes *custom*, and custom, in such cases, becomes the law of the land. Hence we see a bushel of wheat with us is sixty pounds, rye sixty-six, barley forty-eight, buckwheat fifty-two, salt fifty, oats thirty-five, and bran twenty pounds. In England, wheat is sold by the seventy pounds, or the *quarter*, eight bushels; corn by four hundred and eighty pounds, barly sixty, oats forty five, and black-eyed peas five hundred and four pounds. These are examples enough to show conclusively that the value of an article is not founded on the number of pounds that may be given for a certain sum of money, but, on the contrary, it has a *relative* value, its relation bearing upon other articles of similar use and the articles when manufactured.

A ton of hemp is two thousand two hundred and forty pounds all over the United States and in England. And it means a ton of clean, pure, nice hemp, and nothing else. We see that Russia and Italy send their hemp to our country as clean as a *penny*, and it sells like ours at two thousand two hundred and forty pounds to the ton, and all reasonable men must see that if two thousand pounds were called a ton, the price would be *proportionately less.*

Another, and probably the greatest reason, why hemp is not prepared in a better manner for market, is found in the fact that purchasers up the river generally pay the same price, or nearly so, for all the grades, without reference to quality. This mode of purchasing hemp, wheat or any other article of produce, is about as reasonable as it would be for a retail merchant to sell his various qualities and styles of prints at the same uniform price. What would a farmer think of his merchant, Mr. A, if he were to ask him ten cents per pound for a very dirty and inferior article of sugar, when another merchant across the street would sell him, at the same price, a nice, clean, prime article, worth two or three cents more in the pound? Surely the farmer would feel indignant, leave the store, and probably quit his old merchant, Mr. A, and do his trading where he could buy his goods on better terms. Look, now, at the inconsistency of this same man. He goes on for twelve months buying goods of his faithful and honest merchant

on time. The year rolls around, his store bill is due, and the merchant needs his money, or something that will bring it. The farmer has no money, but has wheat or hemp; they strike up a bargain for one or both of these articles, at the usual going rates for the best articles, without the merchant ever seeing the produce at all. When this hemp or wheat is delivered, the merchant finds the article very poor, and not at all what he expected. He expostulates with the farmer on the impropriety of asking such an exorbitant price for hemp that is *shivy* and handled very badly. The farmer replies, that he gave his neighbor B so much for his hemp, and he cannot take less, when probably there was as much difference in the quality of the article as there was in the sugar, when his merchant, A, asked him too much for an inferior article, and he quit him on account of it.

Thus it is that the merchant feels himself compelled frequently to give some of his customers more for an article than it is really worth, or otherwise he would offend them.

This picture of western traffic is no fancy sketch, but the plain unvarnished truth. And it is very plainly to be seen, that the merchant or trader cannot *afford* to please the selfish whims of any man who has so little conscience as to ask more for an article than it is worth, just because his neighbor got a good price for a *good* article.

Let the dealers in produce change their plan of purchasing. Instead of buying, as is mostly done, without ever seeing it, let them buy it according to its value, as it is prepared and brought into market; or if the producer insists on selling previous to taking it into town, or market, let him take, then, a fair sample, if it be hemp, of the length, texture and color of the lint, and manner of handling. If a trade be made, let the purchaser label his sample or samples, and keep them nicely and safely, to compare with the crop of hemp or other produce, as it may be, as it is delivered; and should there be any falling off in the quality, to make the proper deduction in price.

If the purchasers of hemp, particularly, for that is the article that now claims our attention, would adopt this mode of buying, they and all of us would soon see the good results.

When the farmer saw that his hemp had to be seen and *inspected* before it was bought, and that the price he would get would be in proportion to its value, he would take more pains with it. He would not then put in twice the quantity of acres to the hand that could be properly taken care of and broken out in good order. He would not then allow his hands to handle his crop in the rough, careless manner that now disgraces so much of that which reaches our market.

Every hemp raiser in the State is deeply interested in having the crop, now nearly ready for the brake, broken out and handled in a superior manner, for the purpose of redeeming the credit of

Missouri hemp, so that it can again be sent to all the Eastern markets, the purchaser or shipper feeling confident that its quality is such as can be sold, and not like most of that which has been sent there the past season, so poor as not to invite any competition, and hardly a bid, whilst foreign hemp is all taken up at good and improving prices as fast as it arrives.

No. II.

THE IMPORTANCE OF AN IMPROVEMENT IN THE QUALITY OF HEMP, AND THE LOSS WE ARE NOW SUSTAINING.

From all that has been published within a few months past, and written in a business correspondence, we will take it for granted that dealers in hemp, up the Missouri and Mississippi, and the farmers that raise it, have their eyes fully opened to the great importance of a radical and thorough change in the manner of breaking or cleaning the article, as well as of baling it.

That the merchant or speculator in hemp has a deep interest in this matter, there is no doubt, aside from the many losses they make by purchasing a poor article.

If a farmer raises a crop of hemp, or other produce, and manages it so badly that it yields him only two-thirds or three-fourths as much as it would, were more pains taken with it, does it not affect his means of paying his merchant, his mechanic, his doctor and his preacher? This being the effect in one instance, the same is true in a greater degree when nearly all are remiss in doing their duty to an important staple, the quality and value of which so much depends upon the manner of preparing it for market.

The whole State is interested in having those fine hemp lands in Saline, Lafayette, Jackson, Howard, Carroll, Ray, Clay, Platte, Buchanan, Andrew and Marion, to yield the greatest amount of money possible; the citizens generally in those counties are more interested, yet the producer of hemp has the greatest interst of any, for he first handles all the money that acrues from this article.

Lest some of your readers should be still incredulous as to the amount of loss that has fallen upon our hemp, in consequence of the deterioration in quality, I will go a little into facts and figures, to show how the case stands.

In the spring of 1849, hemp of all kinds was bearing a fair price in the Eastern cities, as well as in the West. I will here insert the prices that then ruled in New York and Boston, viz:

Manilla	12 cts ℔ lb
Jute	$105 @ 110 ℔ ton.
Italian	215 @ 230 ℔ ton.
Russian, clean, first quality	225 @ 230 ℔ ton.
Russian, outshot, 2d quality	$215 @ 220 ℔ ton.
American dew rotted	180 @ 190 ℔ ton.
American dressed	210 @ 240 ℔ ton.
American water rotted	200 @ 225 ℔ ton.

You will observe that our American dew rotted hemp ranged within forty to fifty dollars per ton, of the best Russia, whilst our *dressed* was up to it. For the purpose of carrying out the comparison of relative prices, I will now give you the ruling prices in the same cities at our latest date:

Manilla	9½ cts ℔ lb.
Jute	$75 @ 80 ℔ ton.
Italian	220 @ 230 ℔ ton.
Russian, clean, first quality	215 @ 220 ℔ ton.
Russian, outshot, 2d quality	195 @ 200 ℔ ton.
American, dew rotted	145 @ 185 ℔ ton.
American dressed	145 @ 185 ℔ ton.

American water rotted not quoted for want of stock.

Here is very plainly to be seen that the difference in price is much greater now between our American dew rotted hemp and the Russian, than it was in the spring of 1849. There is now a difference of one hundred dollars per ton; and dressed hemp has also depreciated in value very much, on account of the rough manner in which it has been prepared and sent to market.

From the first of September 1849, to the first of September last, there were 34,792 bales of hemp that were received in New Orleans, nearly all of which went to our eastern cities to find a market. Calculating each bale to weigh 350 lbs., we have 5,436¼ tons. There is actually only about fifty dollars per ton difference in the value of our best American dew rotted hemp and Russian, yet there is now a difference in price, at New York, of $100, by which our hemp producers are losing $50 on each ton, on account of its deterioration in quality, making a clear loss to our Missouri farmers, for nearly all the hemp that goes east now is grown in Missouri, of about $271,812, on the amount shipped *via* New Orleans in one year. Nor does this show all the loss by any means, for within that period of time nearly as much more was sold in our market for western manufacture, at a less price, say $50 per ton, than it would have been, had the quality been such as to create a demand and competition in the eastern and northern markets.

Of course the loss or depreciation in value has been upon that which has been used in the west, as well as that in the east, mak-

ing an aggregate amount of loss to the producers of about *a half million dollars* in one year alone.

The "Shipping and Commercial List of New York," Dec. 14th, gives the imports of hemp into that city, from the 1st January to the 1st December, 1850, as follows:

From foreign ports	33,386 bales,	1,412 tons.
From coastwise ports	27,806 bales,	76 tons.
Total	61,192	1,488 tons.
Same time last year	51,588	1,287 tons.

In Boston, the imports for one year, beginning 1st September, 1849, and ending 1st September, 1850, were as follows:

From Russia	1,254½ tons.
From Manilla	28,026 bales.
From New Orleans	8,862 bales.
From other places	3,889 bales.

From which it will be seen that not more than one-half of the hemp used in the east is of the growth of the United States. Indeed, when we take into consideration the large amount of foreign cordage that has been imported into the United States within a year or two past only, we see that we do not make use of *half* as much of our own hemp as we do of the foreign article. This we will all say is not right, when we have as fine hemp lands, and thousands of them too, as there are in the wide world. How is it then, that American hemp does not steadily grow in favor, and work out by its good quality and cheapness in price, the large amount of the foreign article that is annually imported? The answer is found in the crude manner in which it is handled from the time it is cut, until it is rolled out, in bales, from the warehouse to the boat. When we consider that only so far back as in 1841, there were only four hundred and fifty bales of hemp received at New Orleans, and the receipts increased from year to year, until they amounted to 60,238 bales in 1847, all of which nearly was sent to our eastern cities, it does not take a very great stretch of imagination to suppose, that if our hemp were rightly managed, it would almost entirely supply the place of the imported.

Instead, however, of American hemp growing in favor, I will show you, by giving you an extract from a late Boston Shipping List and Price Current, that it is growing *out* of favor, and is becoming *less* and *less* used in that important market every year:

"There has been no movement in American hemp, but on account of the small supplies coming forward, there is a firmer feeling in the market. The exports from New Orleans from Septem-

ber 1st to November 9th, as we learn from a New Orleans Price Current, have been only 3,419 bales, against 9,890 bales, for the same time last year, showing a falling off in the exports from that port of 6,471 bales. The imports at this port from New Orleans, from September 1st to November 9th, for a number of years, shows a large and increasing deficiency, as follows:

1847	3,232
1848	2,043
1849	1,675
1850	866

The import this year being about one quarter that of 1847. In connection with these facts, we would state that this year's supply of Russian hemp is now all on the way, and is known to be much smaller than for some previous years, and has already been pretty much bought up to arrive by consumers."

Although Russia and Manilla hemp are scarce, and hardly any to be had, even at high prices, especially for the former, yet our *poor*, *forsaken*, *friendless* hemp can make no move in the market; and I observe in a recent New York Price Current, that a holder in that city intended to offer 500 bales at auction, as he could not sell it, of course, at private sale, the usual way of selling.

It is useless for the growers of hemp in Missouri to expect to sell more than half their crop to make rope and bagging, or otherwise to be manufactured in the west, for they cannot do so, especially if Kentucky yields anything like an average crop.

The rope and bagging business seem to be overdone, and has been paying badly for the last two years. The receipts at New Orleans, of rope, within the two years past, have exceeded the two previous years some 50,000 coils, with two light crops of cotton to cover at that; which shows there must be a large amount of bale rope left over for the next crop of cotton; and bagging is equally as plentiful. considering the demand for it.

At this time bale rope is only worth in New Orleans 6 to 6½ cts, and bagging 13 to 13½, whilst cotton is worth 12½ to 14¼ cents, showing that the planter is buying his rope and bagging to cover his cotton at about half what he can afford to pay for it, for in selling cotton there is no tare allowed.

The Missouri hemp raiser then must look to some other market for the sale of his hemp, than rope and bagging establishments.

He must look to the East for a market, and to do that, he must make an article worthy to be sent there, and he will be amply rewarded. I fear, however, this will not be done until we have some

legislative enactments on the subject, and I now invite the attention of the members of the coming Legislature to this matter.

In my next I will throw out some hints as to the proper manner of managing dew rotted hemp, in connection with the baling of it. I also desire to say something of water rotting, before I leave the subject.

(*To be continued.*)

COMMERCE OF ST. LOUIS.

Quantity received and monthly prices of leading articles imported into St. Louis during the year 1850.

TOBACCO.—MONTHLY RCCEIPTS AND PRICES.

	Quantity.	*Prices.*					
In January	30 hhds.	(no sales)					
February	7 "	"					
March	128 hhds.	$3 00	to	$12 00	per	100	lbs.
April	647 "	4 45	"	7 75	"	"	
May	1279 "	3 00	"	12 00	"	"	
June	2077 "	4 15	"	13 20	"	"	
July	1651 "	4 45	"	8 45	"	"	
August	1495 "	5 50	"	10 50	"	"	
September	903 "	5 00	"	13 50	"	"	
October	442 "	5 45	"	9 35	"	"	
November	246 "	6 00	"	15 00	"	"	
December	10 "	4 75	"	8 50	"	"	
	9,272 "						
Receipts by wagons	150 "						
Total receipts in 1850	9,422 "						
Receipts of 1349	9,879 "						
Decrease in 1850	457 "						

HEMP.—MONTHLY RECEIPTS AND PRICES.

	Bales.	*Prices.*		
January	7	$122	to	125
February	508	90	"	105
March	7,624	87½	"	90
April	13,524	85	"	93
May	10,772	80	"	90
June	9,789	85	"	89
July	6,736	80	"	90
August	3,922	80	"	86
September	3,776	75	"	90
October	2,085	85	"	93
November	2,203	83	"	92
December	3,316	85	"	95
	62,798*			
Receipts of 1849	46,290			
Increase over 1849	16,508			

* The monthly receipts of this and the preceding table are taken from the Mo. Republican, the agregate amount we have taken from the Harbor Master's books.

LEAD.—MONTHLY RECEIPTS AND PRICES.

	Pigs.	*Prices.*		
January	3,421	$3.92	to	$3.95
February	3,542	3.95	"	4.00
March	43,340	4.37½	"	4.50
April	75,264	4.70	"	4.75
May	88,626	4.58	"	4.60
June	84,594	4.25	"	4.35
July	57,660	4.15	"	4.20
August	38,466	4.10	"	4.15
September	56,263	4.10	"	4.15
October	56,563	4.25	"	4.30
November	64,684	4.25	"	4.30
December	1,079	4.35	"	4.40
Quantity received by the river in 1850	601,786*			

* The agregate is taken from the Harbor Master's Books—the monthly receipts and prices from the Mo. Republican.

The products of the lower mines for 1850 are stated in the Mo. Republican as follows:

Richmond mines	11,872 pigs or	832,530	pounds
Other mines	74,104 " "	5,167,570	"

We do not know what portion of this came by the river. Whatever part of it, however, may have come by that route is included in the 601,786 pigs above stated.

WHEAT.—MONTHLY RECEIPTS AND PRICES.

	Sacks.	*Blls.*	*Prices.*
January	10,013	123	89 to 1.15
February	14,941	88	80 " 1.05
March	60,659	1,452	55 " 1.20
April	83,135	1,036	95 " 1.25
May	60,180	227	90 " 1.27
June	43,971	144	77½ " 1.25
July	29,144	237	65 " 93
August	70,651	284	65 " 85
September	118,378	1,384	60 " 78
October	132,177	2,662	60 " 80
November	208,139	4,605	60 " 82
December	45,365	483	79 " 86
Total according to the Mo. Repuplican	876,753	12,866	.....

The amount in bushels according to the Harbor Master's Book is 1,863,750.

FLOUR.—MONTHLY RECEIPTS AND PRICES.

	Blls.	*Prices.*
January	4,506	$4.75 to 5.12½
February	7,984	4.20 " 4.25
March	17,837	5.37½ " 5.50
April	32,759	5.00 " 5.37½
May	15,900	5.62½ " 6.00
June	16,236	6.00 " 6.35
July	10,582	4.25 " 5.25
August	27,584	3.75 " 4.00
September	37,616	4.00 " 4.37½
October	51,228	4.75 " 4.12½
November	60,048	3.80 " 4.25
December	10,432	4.00 " 4.50
Total received by the river according to Harbor Master's report	326,072	.....

Received by wagons. (Taken from the Mo. Republican.)

From Centre mills (new) Ill. since 30th Sept.	1,833	barrels.
" Hope mills, Illinois, since 1st January	1,435	"
" Planet mills " " 1st January	1,335	"
" Harmony mills " " 1st January	2,405	"
" Harrison's mills and other sources	24,944	"
	32,352	
Add receipts by the river equal to	329,732	
Total barrels	362,084	

CORN.—MONTHLY SECEIPTS AND PRICES.

	Sacks.	*Prices.*
January	13,885	38 to 40
February	10,510	37 " 40
March	29,439	45 " 48
April	80,364	44 " 45
May	101,070	46 " 60
June	70,268	60 " 62½
July	50,900	58 " 64
August	22,465	58 " 61
September	20,400	50 " 52
October	10,656	52 " 55
November	27,493	46 " 48
December	46,364	46 " 55

Total sacks.....484,014
Total bushels 1,016,077

BARLEY.—MONTHLY PRICES PER BUSHEL.

January	80 to 90	July	95 to $1.00
February	95 " 1.05	August	75 " 80
March	$1.00 " 1.10	September	65 " 70
April	1.10 " 1.15	October	60 " 85
May	1.15 " 1.20	November	62½ " 85
June	1.00 " 1.10	December	65 " 87½

RYE.—MONTHLY PRICES PER BUSHEL.

January	55 to 60	July	70 to 75
February	50 " 55	August	55 " 60
March	65 " 70	September	60 " 65
April	70 " 75	October	50 " 55
May	87½ " 1.00	November	45 " 50
June	70 " 75	December	55 " 60

CASTOR BEANS.—MONTHLY PRICES PER BUSHEL.

January	$2.20 to	$2.37½	July	$1.70 to	$1.75
February	2.25 "	2.50	August	1.60 "	1.70
March	2.50 "	2.60	September	1·45 "	1.50
April	2.60 "	2.65	October	1.35 "	1.40
May	2.55 "	2.60	November	1.25 "	1.30
June	1.75 "	1.80	December	1.30 "	1.35

FLAX SEED.—MONTHLY PRICES PER BUSHEL.

January	$1.45 to	$1.50	July	$1.30 to	$1.35
February	1.40 "	1.50	August	1.25 "	1.30
March	1.50 "	1.55	September	1.10 "	1.20
April	1.55 "	1.60	October	1.25 "	1.30
May	1.50 "	1.55	November	1.45 "	1.50
June	1.30 "	1.35	December	1.55 "	1.60

HAY.—MONTHLY PRICES PER 100 POUNDS.

January	75 to	80	July	80 to	85
February	70 "	75	August	80 "	85
March	75 "	80	September	60 "	62½
April	80 "	$1.00	October	55 "	60
May	$1.10 "	1.20	November	62½ "	65
June	75 "	85	December	70 "	75

POTATOES.—MONTHLY PRICES PER BUSHEL.

January	50 to	55	July	85 to	85
February	46 "	50	August	75 "	80
March	65 "	70	September	45 "	65
April	50 "	60	October	50 "	65
May	75 "	1.00	November	62½ "	70
June	80 "	85	December	85 "	1.05

WHISKY.—MONTHLY PRICES PER GALLON.

January	22½ to	23	July	25 to	26
February	22½ "	23	August	26 "	26½
March	23 "	24¼	September	25½ "	26
April	22 "	23	October	26 "	26½
May	22½ "	24	November	21 "	22
June	25 "	27½	December	21 "	23

PORK.—MONTHLY PRICES OF MESS PER BARREL.

January	$8.37½	to $8.50	July	$10.00	to $10.50
February	8.37½	" 8.50	August	10.50	" 11.00
March	8.25	" 8.37½	September	nominal.	
April	8.37½	" 8.50	October	"	
May	9.25	" 9.50	November	"	
June	10.50	" 11.00	December	10.25	to 11.50

LARD.—MONTHLY PRICES PER 100 lbs.

January	$4 50	to 5 50	July	$6 00	to $7 00
February	4 50	" 5 50	August	6 25	" 6 75
March	5 25	" 6 50	September	5 50	" 6 12½
April	4 50	" 5 80	October	5 62½	" 6 25
May	4 75	" 6 00	November	6 00	" 7 00
June	6 35	" 7 65	December	6 70	" 7 00

SUGAR.—MONTHLY PRICES PER 100 lbs.

January	$4 00	to $5 00	July	$5 75	to $6 25
February	4 00	" 5 00	August	6 00	" 6 50
March	3 75	" 4 75	September	6 25	" 7 00
April	3 25	" 4 50	October	6 25	" 7 00
May	4 62½	" 5 50	November	5 75	" 6 25
June	5 60	" 6 00	December	4 75	" 5 75

MOLASSES.—MONTHLY PRICES PER GALLON.

January	25	to 26	July	32	to 34
February	25	" 26	August	34	" 35
March	24	" 25	September	32	" 34
April	24	" 25½	October	32	" 33
May	28	" 30	November	30	" 32
June	32	" 33	December	28	" 31

NOTE.—The foregoing tables of monthly receipts and prices of produce are taken from the St. Louis Times and Mo. Republican which we found (by comparing them,) to agree with each other. The totals of receipts for the year were taken by ourselves from the Harbor master's books.

IMPORTS INTO ST. LOUIS, BY THE RIVER, FOR FIVE YEARS,

Commencing January 1st 1846.

The following table exhibits the receipts of produce and merchandize by the river only. The City ordinance requiring the Harbor master to register the imports by the river, omits to enumerate many important articles; and consequently the tables are not as complete as could be desired. The designation of packages &c. in the Harbor Master's Book, for the year 1850 differing in several instances from our tables of previous years is another cause of incompleteness in the table before us; the imports for the year 1850 have been copied by ourselves from the Harbor Master's books.

Articles.	1850.	1849.	1848.	1847.	1846.
Apples, green, Bbls.	20,291	20,533	12,628	2,128	3,728
" dried, bbls. & sacks	14,766	.....	.....	.....	.....
Bacon, casks	27,106	16,880	29,423	14,425	11,803
do. boxes	6.195	3,245	6,622	1,289	1,618
do. bulk lbs.	558,703	.....	.....	.....	.....
Bagging, pieces,	1,262	1,079	1,084	1,412	3,243
Barley, bushels	72,591	92,463	111,003	114,680	20,277
Beans, barrels	1.378	1,516	3.337	5.337	4,370
do. sacks	3,017	2.265	2.003	4,131	2,199
Beef, barrels	11,423	12,336	7,866	4-720	1,716
do. ½ do.	775	.....	.....	.....	.....
do. tierces	.....	10.687	9,369	5,735	.....
Bran, shorts, &c., sacks	.....	65,418	63,726	.....	.....
Brandy, barrels	5,723	.....	.....	.....	.....
Brooms, doz.	.....	.....	6,744	.....	.....
Buffalo robes	67.654	11,023	.....	.....	.....
Butter, barrels	1,926	2,324	2,266	1,084	823
do. kegs	5.349	7,811	8,131	4,199	3,940
do. firkins	3,234	.....	.....	.....	.....
Cheese	26,381½	19,464	8,417	12,386	11,232
Cider, bbls.	801	2.638	1,180	336	421
Coffee, sacks	73,281	67,353	78,842	77,767	65,128
Corn, bushels	1,016,077	305,338	639,693	1,016,318	688,649
Cotton yarns, packages	.....	22,836	11,480	12,762	13,269
Feathers, sacks	1,593	1,156	856	384	768
Flax seed, bbls. & sacks	2,348	9.802	12,257	4,992	3,693
Flour, bbls.	326,072	306,412	387,314	328,568	220,457
do. ½ do.	7,321	.....	.....	.....	.....
Furs, packages	2,180	1,524	1.194	2,148	3,011
Ginseng, sacks & bbls.	877	374	152	267	77
Glass, boxes	.....	66,696	19,834	18,722	24,630
Hay, bales	25,271	tons 920	tons 845	.....	.....
Hemp, bales	62,798	46,290	47,270	72,222	33,853
Hides	86,815	68,902	62,697	71,877	63,396
Iron, bars, tons	14,322	28,562	16,341	15,070	2,484
do. pig, do.	4,468	5,143	4,463	2,729	2,326
do. castings, do.	2,485	.....	.....	.....	.....
Lead, pigs	601.786	590,293	704,718	749,128	730,829
Lead, bars, lbs.	113,150	.....	.....	.....	.....
Lead, white, kegs	8,975	.....	.....	.....	.....
Lard, bbls.	100,001	58:279	67,339	32,021	28,462
Lard, tierces	.....	15,801	6,579	2,150	.....
do. kegs	17,133	18,845	14,180	8,595	14,730
Malt liquors, bbls.	7,725	13,480	10,510	6,727	5,388
Molasses, bbls	32,463	29,214	21,948	21,554	14,996
Nails, kegs	88,813	76,567	49,596	22,589	28.073
Oakum, bales	2,612	2,594	816	1,072	1,378

Articles.	1850.	1849.	1848.	1847.	1846.
Oil, Linseed, bbls	2.587	1.936	1,609	485	826
do. Castor, do	1.678	875	510	332	95
do. Sperm, do	2.038	.....	193	186	169
do. Train, do	348	.....	.....	.....	.....
Oats, bushels,	712.617	252.291	243.700	202.365	95,612
Onions, Sacks and bbls	14.629	8.540	10.804	4.252	5,215
Peltries, packages	1.362	2.641	1.889	2.694	1,266
Pork, bbls.	135.662	113.862	97.662	43.692	48,981
do. ½ do.	7.321	.....	.....	.....	.....
do. bulk, lbs.	11.474.041	9.651.656	8.454.000	285.797	630,765
Potatoes, bbls. and sacks,	13.401	41.222	77.638	26.928	30,604
Rice, tierces	3.389	1.965	948	762	916
Rope, hemp coils	23.442	19.065	12.633	10.798	5,123
do. Manilla coils	5.649	.....	.....	.....	.....
Rye, bushels	3.468	5.844	9.075	7.566	5,282
Salt, domestic, fine, bbls.	805	23.553	38.800	41.380	58,948
do. do. coarse, do	24.219				
do. L. Blown, sacks	23.252	291.709	26.687	17.632	2,847
do. G. Alum, do.	159.699		167.079	92.809	107,581
do. Turks I. do.	98.038		56.642	22.983	15,823
Sugar, hhds.	24.159	26.501	26.116	12.671	11,608
do. bbls.	12.273	.....	6.852	4.083	4,917
do. boxes	13.926	7.348	14.812	20.111	5,752
Tallow, casks	439	973	398	112	303
do. barrels	809	631	797	2.217	1,114
Tar, barrels	1.126	2.539	5.027	2.217	1,558
do. kegs	5.219	4.103	2.360	5.656	5,776
Tea, chests	2.873	3.281	2.384	3.028	3,049
do. ½ do.	5.906	.....	.....	.....	.....
Tobacco, hhds	9.272	9.879	9.044	11.015	8,588
do. Man., boxes	10.309	5.904	5.446	6.548	7,903
Vinegar, bbls.	1.134	1.423	606	1.233	1,086
Wheat, bushels	1.863.750	1.792.535	2.194.789	2.432.377	1,838,926
Whisky, barrels	38.813	29.085	29.758	22.239	29,882
Wool, bales	1.509	1.274	1.398	2.107	1,903

NOTE.—*Articles imported in the year* 1850 *and not heretofore enumerated in our tables* :—Axes, boxes 1,875. Boots: boxes 27,160. Trunks, 2,800. Shoes: boxes, 17,022; trunks, 2,618. Candles, sperm: boxes 496. do. Tallow, boxes 2,806. Cattle, 1,376. Dry goods: boxes 94,162, packages 362,936, bales 26,298. Fish: kegs 1198. boxes 5843, barrels 6758, ½ bbls. 2192. Gin bbls. 796. Hogs 12,226. Horses 2098. Hemp seed, bbls. 750. Leather, bundles 15,644. Sheep, 2,924. Paper: wrap., reams 50,506; do. writing, reams 10,990. Peaches: green, bbls. 743; do. dried, bbls. 2,260; do. sacks, 5,834. Powder: kegs 18,505. Queens ware: crates 2,508, casks 3,197. Rum, bbls. 706. Cigars: foreign (boxes 1000) 2,605—do. domestic 1,633. Skins, 6,718. Tin plate, boxes 9,993. Wine, bbls. 8,972.

FOREIGN IMPORTS.

Statement of Imports into St. Louis from foreign countries during the year 1850, *furnished for the Intelligencer by W. W. Green, Surveyor of the Port of St. Louis.*

Foreign value of merchandise imported and entered for consumption at this Port, during the year 1850		$500,773 38
Duties paid thereon	$174,974 16	
Foreign value of merchandise remaining in Public Warehouse at this port 31st December, 1850		22,627 32
Duties payable thereon	$18,932 19	
Foreign value of merchandise imported from England		301,266 37
do do France		84,842 38
do do Germany & Holland		31,859 63
Foreign value of merchandise imported from Spain and Dependencies		116,830 00
Foreign value of merchandise imported from Genoa		121 00
Do do Manilla		25,854 00
Total		$560,773 38

The general description of merchandise thus imported, is as follows:

	Foreign value.
Hardware, cutlery, &c.	$153,714 00
Copper, sheet-iron, iron, &c.	76,543 00
China and earthen ware &c	74,070 14
Brandy, wine, gin, &c.	31,091 88
Dry Goods, &c.	13,914 36
Stationary, fancy goods, toys, &c.	34,467 00
Corks	1,106 00
Sugar	153,449 00
Molasses	22,418 00
Total	$560,773 38

Hospital money collected in 1850	$2,388 72
do expended in 1850 for the relief of sick and disabled seamen	1,755 86

STATEMENT

Of Vessels enrolled at the port of St. Louis, as reported on the 31*st of December*, 1850.

118 steam vessels, 27,962 60-95ths tons, with a power equal to 4,677 728-1000 horses.

63 vessels other than steamers, 4,006 27-95ths tons.

BANK REPORT.

Agregate Condition of the Bank of the State of Missouri and its Branches, on the 31st December, 1850.

DR.

Bills discounted - - - - - -	$1,947,075 09
Exchange matured - - - - -	421,228 35
Exchange maturing - - - - -	947,347 76
Real Estate - - - - - -	123,928 88
State of Missouri, (account current) - -	124,086 47
Bills receivable - - - - - -	22,373 47
Loan to State of Missouri, (pay of volunteers)	4,276 93
Jas. L. D. Morrison, Agent - - - -	18,779 80
Suspended debt - - - - - -	191,161 42
Do. do. abstraction of funds now in suit -	120,961 62
Expense Account - - - - -	16,307 96
Protest Account - - - - - -	150 17
Due from Banks - - - - - -	66,028 88
Bank Notes on hand at Branches - - -	37,510 00
Warrants on State Treasurer of Mo. - -	8,966 20
Certificates Banks of Illinois - - - -	121,485 00
Specie on hand - - - - - -	1,198,268 98
	$5,369,936 98

CR.

Stock paid in: owned by the State	$954,205 22	
Owned by Individuals - - -	254,926 22	
		$1,209,131 94
Deposits - - - - - - -		1,096,284 26
Dividends unpaid - - - - -		2,697 62
Interest and Exchange of Parent Bank	$164,522 73	
Do do do for past six months	60,140 49	
Do do of Branches for do. -	40,165 99	
		273,829 21
Contingent fund - - - - - - -		159,213 70
Circulation - - - - - - - -		2,552,500 00
Due to Banks - - - - - - -		76,280 16
		$5,369,936 98

H. SHURLDS, Cashier.

Condition of the Bank of the State of Missouri on the 31*st December*, 1850.

DR.

Branch at Fayette, for capital, -	$120,058 84	
" Palmyra, " -	120,058 84	
" Jackson. " -	120,058 84	
" Springfield, " -	120,058 84	
" Lexington, " -	120,058 84	
		$600,294 20
Bills discounted - - - - - -		1,073,433 39
Exchange matured - - - - -		313,756 12
Exchanges maturing - - - - -		631,414 31
Real Estate - - - - - - -		59,703 00
State of Missouri, (account current,) - -		124,086 47
Loan to State of Mo., (pay of volunteers,) -		4,276 93
Bills receivable - - - - - -		22,373 47
Jas. L. D. Morrison, agent - - - -		18,779 80
Suspended debt - - - - - -		95,009 83
Do. do. abstraction of funds now in suit,		120,961 62
Expense account - - - - - -		8,905 42
Protest account - - - - - -		40 92
Due from Banks - - - - - -		43,180 94
Warrants on State Treasurer, Mo. - - -		8,966 20
Certificates Banks of Illinois - - - -		121,485 00
Specie on hand - - - - - -		744,365 67
		$3,991,033 29

CR.

Stock paid in, owned by the State	$954,205 22	
Do. owned by individuals - -	254,926 72	
		$1,209,131 94
Deposits - - - - - - -		809,493 74
Dividends unpaid - - - - - -		2,697 62
Interest and exchange - -	$164,522 73	
Do. since 29th June, 1850,	69,140 49	
		233,663 22
Contingent fund - - - - - -		159,213 79
Circulation - - - - - - -		1,505,300 00
Due to Banks - - - - - -		71,532 98
		$3,991,033 20

H. SHURLDS, Cashier.

St. Louis, Dec. 31st, 1850.

Condition of the Branch of the Bank of the State of Missouri, at Fayette, on 31st December, 1850.

DR.

Bills discounted	$127,423 96
Exchanges matured	75,937 42
Do maturing	191,942 18
Real estate	21,129 58
Bank State of Missouri, (account current)	12,541 95
Suspended debt	7,093 55
Expense account	1,537 82
Protest account	95
Specie on hand	80,699 12
	$428,304 73

CR.

Bank State of Missouri, for capital	$120,058 84
Deposits	60,076 41
Interest and exchange	8,169 48
Circulation	240,000 00
	$428,304 73

WM. C. BOON, Cashier.

Fayette, December 31, 1850.

Condition of the Branch of the Bank of the State of Missouri, at Palmyra, on 31st December, 1860.

DR.

Bills discounted	$169,148 96
Exchanges matured	2,015 81
Do maturing	71,705 35
Real estate	14,513 20
Suspended debt	19,749 29
Expense account	1,618 29
Protest account	30 85
Bank notes on hand	27,630 00
Specie on hand	121,602 84
	$428,014 59

CR.

Bank State of Missouri, for capital	$120,058 84
Deposits	89,417 31
Interest and exchange	7,653 64
Circulation	209,960 00
Due to Banks	924 80
	$428,014 59

S. D. SOUTH, Cashier.

Palmyra, December 31st, 1850.

Condition of the Branch of the Bank of the State of Missouri, at Jackson, on 31st December, 1850.

DR.

Bills discounted	$212,294 50
Exchanges maturing	1,500 00
Real estate	5,115 14
Suspended debt	17,786 40
Expense account	1,085 82
Protest account	58 40
Bank notes on hand	810 00
Specie on hand	97,888 48
	$336,538 74

CR.

Bank State of Missouri, for capital	$120,058 84
Deposits	10,864 11
Interest and exchange	6,876 60
Circulation	197,240 00
Bank State of Mo., account current	1,499 19
	$336,538 74

THOS. B. ENGLISH, Cashier.

Jackson, December 31st, 1850.

Condition of the Branch of the Bank of the State of Missouri, at Springfield, on the 31st December, 1850.

DR.

Bills discounted	$148,705 32
Exchanges maturing	29,520 92
Real estate	9,704 00
Suspended debt	43,275 75
Expense account	897 45
Protest account	11 85
Bank State of Mo., (account current,)	8,949 04
Bank notes on hand	2,000 00
Specie on hand	74,973 73
	$318,038 06

CR.

Bank State of Mo., for capital	$120,058 84
Deposits	32,195 52
Interest and exchange	5,783 70
Circulation	160,000 00
	$318,038 06

JAS. R. DANFORTH, Cashier.

Springfield, December 31st, 1850.

Condition of the Branch of the Bank of the State of Missouri, at Lexington, on 31*st December*, 1850.

DR.

Bills discounted	$216,069 86
Exchanges matured	28,019 00
Exchanges maturing	112,765 00
Real estate	13,763 96
Suspended debt	8,426 60
Expense account	2,263 16
Protest account	8 10
Due from Banks	1,356 95
Bank notes on hand	7,070 00
Specie on hand	78,739 14
	$468,301 77

CR.

Bank State of Missouri, for capital	$120,058 84
Deposits	94,237 17
Interest and exchange	11,682 57
Bank State of Mo., (account current,)	2,323 19
Circulation	240,000 00
	$468,301 77

WM. LIMRICK, Cashier.

Lexington, December 31st, 150.

FEMALE EDUCATION.—NO. II.

BY MRS. HARRIET WESTBROOK.

In pursuing the subject of Female Education one of the most important things to be noticed, and one of which parents and guardians should take especial oversight is, the class of books which is placed in the hands of the young female, or which she is permitted to choose for herself. Next to her social companions these exert the greatest influence over her mind. Books, if properly chosen, are a very great means of improvement. Through them we may converse with the wise and good of all ages; become acquainted with the history and theories of the earlier ages of the world before the present advanced stage of civilization, and also become recipients of the best thoughts and feelings of her sage and philosophers. There are few young persons who, if left unguided will judge wisely in their choice of books, but whatever appears most attractive is most readily chosen. The old adage, "A person is known by the company they keep," is no more true, than that they may be known by the character of the books they are in the habit of reading. When we see persons choosing moral and religious works, we understand at once the tendency of their minds, and expect to see a corresponding life and deportment. So political men choose for their reading and conversation the subject of politics; and literary and scientific persons such books and companions as are suited to their respective tastes.

There is a class of books with which our towns and cities are flooded, and which passes under the name of light literature, that is unquestionably immoral and corrupting in its influence, and I regret to say that a large portion of my own sex seek little else. I am fully pursuaded that no young person can yield themselves to the influence of such reading, without proportionate debasement of the mind. I have often wondered that men possessing the versatility of talent and industry that some novel writers do, should condescend to sell themselves so cheaply. That they should be willing to make use of their faculties in administering to the vitiated tastes of thousands who have no more judgment than to seize with eagerness, every thing in the character of fiction, without making any discrimination of their respective merits. I do not say there is nothing that appears in the dress of fiction which it is proper to read; but I do say without hesitation, that a majority of the novels of the present day, which are sought and read with such avidity, are extremely demoralizing in their influence, and there is very little hope that young persons who give themselves up to that kind of reading, will ever make much advance in mental cultivation. The author throws around his imaginary characters all the seductive charms of a licentious imagination, in order to attract readers and purchasert. It is seldom they portray the sober scenes

of every day life, there is not in them sufficient excitement to feed a morbid imagination. Tragedies are frequently occurring in our large towns and cities, the causes of which may be traced directly to an inordinate love of and indulgence in this kind of reading. It becomes in many instances, a species of dissipation, and the subject of it is hurried on from step to step, to an indulgence in the grossest vices. Who has ever known a woman made better, in the relations of wife, mother, or friend, or indeed in any respect, who was in the habit of indulging to any extent in this pernicious practice? But can not all persons refer in their minds to individuals who have by it been ruined in each of these relations and wholly unfitted for domestic duties. The true dignity of woman cannot be sustained without purity of mind and virtuous principles, such as are not the legitimate offspring of such trash as the light reading of the day. I cannot include in my objections all works of the imagination. To do so, would be to cast away some of the finest specimens of ancient and modern literature. I would not strip literature of its foliage and flowers, and present the fruit upon the naked stem, but its gorgeous dress, should not conceal beneath its shade the miasma of licentiousness and vice, nor its brilliant coloring attract the imagination from that pearl of great price—*truth*. Any one who has ever indulged in the intellectual treat of some of Goethe's productions, for example, the "Travels of Wilhelm Meister," and also his "Confessions of a fair Saint," must have been conscious of an influence purely moral and intellectual. Also such writers as Schiller, Herder, and H. C. Anderson, have all presented some of the finest moral truths in the dress of fiction. And equally moral and practical in their bearing are the productions of Friedericka Bremer, and William and Mary Howitt.

It is not such works as these that ought to be condemned, but those gross and sensual fictions, which emanate in such superabundance from brains that ought to be better employed. There are others of equal merit, and it is to be hoped that others still may arise in our own country, who will become zealous champions—and co-operators in woman's moral and intellectual improvement, rather than advocates of her political rights. Many have taken great pains to prove that woman has been placed by the side of man as his equal in strength and capacity of intellect. But that is a question of little or no importance, whether she is in this respect his equal, his inferior or his superior. She has a sphere in which to move; one in which her Creator has placed her, and one peculiarly her own—which no one but herself can fill, and in which to her there is enough of glory if well filled, without her possessing one desire to usurp the place of man. The question considered should not be, is she man's equal, should she lecture, should she figure in legislative halls, has she a right to man's attire. But is she virtuous and intelligent, does she adorn the position in which God has placed her,—"as Heaven's best gift to man," in

cultivating those heavenly gifts bestowed especially upon her,—Truth, Love, Gentleness and Wisdom. Why do not virtue, and knowledge, and science, add the same lusture to her character that it does to man's? Aye it does, and renders her far more attractive, than a knowledge of all the novels that ever were written. Influence is her peculiar talent, and the one which she exerts most. As wife and mother her influence is unlimited, and is productive of great moral and political results. In the domestic circle are concentrated all the energies of her nature. There her sons and daughters who are to become our future statesmen and teachers, imbibe their first and most enduring principles, and become either christian and patriotic members of society, or careless and reckless of what they do and are. I cannot but feel that they who call themselves "lords of Creation," are somewhat to blame, for the superficial attainments and trifling character of Woman. They will condescend to trifle with, and amuse her with the most frivolous conversation—probably forgetting, that she too, can lay claim to the almost universal gift of common sense. If man would reflect how much a high standard of Female Education depended upon him, methinks the more sensible part of the sex would desist from a source which throws so palpably the low estimate they place upon her intellect. While the world is moving onward, and progress and reform is stamped upon every thing else, the mind of woman is overlooked. To unfold her faculties, and improve her understanding, seems scarcely to be thought of, as though the era so much to be desired, of human happiness and perfectibility could be brought about, while her mind is suffered to lie dormant. No wonder when she sees the little consideration and respect man pays to her intellect, she learns to look upon herself as an impersonation of external graces without a soul. Thus her mind is sacrificed to a love of showy accomplishments, which are really beautiful and beautifying in their influence, so far as they go, but when there is no corresponding care bestowed upon the interior; beauty will in time pall, and what was at first so attractive becomes a deformity. I hope the time is not distant, when the standard of female attainments will be raised incomparably above its present level. When an exalted and inflexible morality will form its basis, then whatever exalts and purifies the mind will be cultivated with the most assiduous care, and her brow be adorned with the precious gift—Truth. Then her influence wherever cast will be wholesome. The youth of both sexes will reap benefit by association with her; and then, and not till then may we look for exaltation and improvement in the future generations. Then will be exerted an influence for the weal of our country. And we may hope for the happy time of which the sweet singer of Israel spake, "When our sons will be as plants grown up in their youth, and our daughters as corner stones, polished after the similitude of a palace."

St. Louis Jan. 7, 1851.

THE CEDAR PYRAMID.*

Among the natural curiosities of our country, there is to be seen in Darst's Bottom, on the Missouri river, St. Charles county, Mo., near the base of a rock cliff, which is perpendicular and two hundred feet in hight, a column which shoots up to the height of about one hundred and sixty feet! This vast column erected by the great Architect of the Universe—as a specimen of durability and grandeur, stands firmly as the everlasting hills!

Its figure is that of the frustum of a pyramid—or more strictly speaking an obelisk—whose base is a rectangular parallelogram, and the mean of its sides twenty-eight by sixteen feet. This measure was made at the apex of the debris, from the main cliff, which is about half the hight of the column. At this hight, the space between the column and the face of the cliff, is four feet; and at the apex of the column, the distance is apparently ten or twelve feet. The cliff, and side of the column which faces it are straight and smooth, leaving no indication that this elevated shaft was ever united to the main cliff. The material, of each is a grey friable sandstone.

On the face and summit of the cliff are numerous cedars; and upon the summit of the column, there stands a living cedar fifteen or twenty feet in hight! And a dead cedar stump, four or five feet high, with sprigs of grass about their roots. The summit is, apparently, ten or twelve feet square.

From this spot, the intervening forest prevents a view of the Missouri river. In many places there is no accumulation of debris from the cliffs, and we see evident indications that the Missouri river at some anterior period, rolled past—and washed the base of the Cedar Pyramid.

The impression which such scenes make upon the memory, together with recollections of our earlier history, are calculated to excite a love of country. These rocks and hills of our native land; our lofty ranges and mountain brooks; our lengthy rivers and expanded lakes; the brilliant feats achieved under our stars and stripes; the daring and virtues of our ancestors; aye, the very hearth stones which we encircled in the days of our childhood: the old log school house and the village church—scenes like these engraved upon the tablets of memory, never to be erased, press upon the mind, and involuntary, but fervent aspirations flow out from our bosoms for the perpetuity of the hope of the world—our beloved and glorious Union.

The witnessing of such scenes, and the indulgence of such feel-

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* The following spirited description of this remarkable column is from the pen of B. A. Alderson, Esq., author of the sketch from which the engraving in the front of this number was taken. The engraving, impressed on fine material, is for sale at Keith & Woods, Market street. It is the first sketch of Missouri scenery, we believe, that has been engraved: the object represented, the author and the artist all belong to our own State; and we are persuadod that every Missourian will be pleased to obtain a copy.

ings, are also calculated to inspire ones soul with morality and reverence. For, to one whose home is on the wide spreading prairie—whose wanderings are by the limpid stream and over rugged cliffs :—this mighty shaft, rising up by the side of craggy rocks, crowned with ever living verdure, may be likened to the kindlier feelings of the human heart, which rise up in adoration to "Him, who doeth all things well"—and form an Oasis in the garden of the heart.

LITERARY NOTICES.

ADVANTAGES OF A GEOLOGICAL SURVEY.

This is the title of a pamphlet containing about 30 pages, from the pen of H. A. Prout, M. D., of this city. The design of the author in publishing this treatise was to impress upon the public mind the importance of a Geological Survey of the State of Missouri. It is an able document : and we commend it to the perusal of every individual who feels an interest in the development of the mineral resources of the State. For sale at W. D. Skillman's and at Woodward's, 4th street, St. Louis.

NEW PERIODICALS.

Appleton's Mechanics' Magazine and Engineers' Journal, edited by Julius Adams, C. E., New York. In an age when so many discoveries are being made in physical science, and, when improvements are continually taking place in the useful arts, the success of the Mechanic, the Engineer, and Manufactures depends in a great degree upon their knowledge of the latest discoveries and improvements : and judging from the plan of this Journal and the matter contained in the number before us, we are persuaded that it will be found highly useful especially to that class of readers for which it is designed. The work is published monthly on excellent paper at $3.00 per annum.

The United States Postal Guide and Official Advertiser, edited by Peter G. Washington and Charles M. Willard, Washington, D. C. We are in receipt of 6 numbers of this work and regard it as being highly worthy of patronage, not only by those connected with the post office and mail establishment of the United States, but, by the community at large.

The work contains statistical and other valuable information relating to all the departments of government,—official correspondence, notices of the movements of the Army and Navy and

much other information that is not usually found in the public prints. The work contains 32 super royal pages and published at one dollar per annum.

Ciceronian Magazine. This is a neat monthly, containing about 40 pages, published by the Ciceronian Society, Georgetown, Ky. The 4th number, the only one that has reached us, contains several well written articles—and if this is a fair sample, of the Ciceronian Magazine, it is well entitled to the patronage of the West.

Popular Tribune, Journal of Reform and Social Reorganization. This is the title of a weekly paper containing 8 pages, published under the direction of M. E. Cabet, Nauvoo, Ill.

Judging from the number before us, we infer that the design of the publisher is to explain the principles of the Icarian Community of which it professes to be the organ. Mons. Cabet is a philanthropist, and possesses a high degree of intelligence, and we shall be gratified if his plan succeeds. For, we hold that no community can sustain its organization and prosper in this country, unless it is proved by experience to possess decided advantages over those afforded by our free and enlightened institutions.

We regard the "Popular Tribune" as a valuable addition to our list of exchanges, and think it will be found interesting to the community. Price $1.50 per annum.

TO THE PATRONS OF THE WESTERN JOERNAL.

In accordance with a desire frequently expressed by our friends, we have made arrangements for a constant supply of original matter for our literary department. This we trust will meet the approbation of all: for, while we shall endeavor to sustain the character of the other departments with matter relating to the leading pursuits and interests of the country, we hope to make the Western Journal acceptable to the family circle—not less acceptable in the parlor than in the counting room and work shop.

As this adds to the cost of the publication, we trust that our patrons will be prompt in remitting the small amounts due on our books. We are persuaded that their delay is not owing to the want of means or inclination; but, like all small matters, our claims are overlooked by those employed in more important affairs.

Post masters are authorized to remit without charge: and their certificate that money has been mailed to our address, will be recognized by us as a valid receipt.

We beg further to remark that we have contracted for the printing of a certain number of copies for the year, at a certain price, and if we break a volume it is of no value to us: for this reason we desire to inform our subscribers that we cannot, in justice to ourselves, accept of a discontinuance except at the close of a volume. When the first number of a volume is received, we shall in all cases insist on payment for the whole. Each volume contains six numbers. EDITORS.

THE

WESTERN JOURNAL.

VOL. V. February, 1851. No. V.

CULTURE OF FLAX FOR SEED.

Having devoted our leading articles, for some months past, to the discussion of subjects relating to public measures, we turn with pleasure to one more congenial to our taste, and not less palatable perhaps to our patrons. We delight to commune with the tillers of the soil, the men who minister at the great fountain of civilization, dispensing thence the elements of subsistence and of comfort to those employed in all other departments of industry. We delight to investigate the properties of inorganic matter; to trace their transformations into organic forms; to watch the mysterious developments of germ, foliage, flower, and of fruit; to contemplate the relations of their developments to the animal kingdom, and, finally, to follow up the line of observation until we discover that wonderful phenomenon, the human mind, endowed with faculties capable of directing and modifying the laws of its own existence.

Of all men else, the tillers of the soil occupy the best position for observing the properties and economy of nature: they may be regarded as the priesthood who preside over her mysteries, and officiate in her temple: to them are given the first and fairest fruits of the season: in their hands is the "staff of life," and from their abundance the families of the earth are filled and clothed.

Thus highly favored, it should be the aim of all to improve the advantages which their station affords; for ignorance and improvidence are not less fatal to the prosperity and happiness of the agriculturist than to the merchant or artizan. It is not sufficient, to insure prosperity, that he should merely understand the art of producing crops of various kinds; but, he should be well informed in respect to the demand and supply of all commodities that his own particular location and means will enable him to produce with profit; for, upon the observance of these facts, the prosperity and wealth of agricultural communities must ultimately depend. The profits accruing from the labor of one or of several years should not be regarded as proof sufficient to establish the fact, that the cultivation

of any particular plant will prove profitable in the end. Before the profits of labor can be ascertained it must be known to what extent the soil has suffered deterioration; and a sum, sufficient to pay the expense of restoring it must be deducted from the value of its products.

No country can prosper long under the cultivation of only one staple; for we esteem it a well established fact, in agricultural economy, that all plants deteriorate if planted on the same ground throughout a series of years in succession. And it may be regarded as incontrovertable that the wealth of a country will, in the course of time, correspond to the number and variety of plants cultivated by its inhabitans; and, that the region capable of producing the greatest variety of useful plants, is calculated to sustain the largest number of people, and the greatest amount of wealth in proportion to its area. It is therefore the true policy of every community to diversify their crops so as to embrace every plant that will afford a remunerating profit—always bearing in mind that the profits of labor are diminished or enlarged in proportion to the deterioration or improvement of the soil.

Moreover, to ensure remunerating prices, the producers should limit the production of their leading agricultural staples to a degree that will enable them to control the market; for, by the laws of commerce, the money value of each class of commodities bears, in general, a uniform proportion to the entire volume of commerce, including money; and, consequently, when the production of any one staple has reached a certain point, an increase in quantity adds nothing to its aggregate value in market: indeed, if the overproduction be large, for a few years in succession, it may happen that the aggregate value of the crop will be greatly reduced. For in such case the *consumers* control the price, and it is evident that they will continue to depress it until the depreciation reaches a point that will drive the producers into other pursuits. This has frequently happened to the planters and farmers of the United States and it is by no means creditable to their intelligence and foresight that they have rarely abandoned, or even limited, the cultivation of a staple, when once adopted, until driven to do so by necessity.

Judging from the present prices of Western staples, one might conclude that they were not depressed by reason of overproduction; indeed, the prices of all may be regarded as highly remunerating: but such has not generally been the case, nor can the present state of things be regarded as permanent. The present prices are in part attributable to the California emigration, which is now rapidly returning; and we may expect that the demand for labor will again be fully supplied during the present year: and, that the farmers, influenced by the present high prices, will increase the quantity of land put in cultivation to an extent that will, in case the seasons prove favorable, result in reducing the prices of all their products.

Now, if instead of extending the breadth of land for the cultivation of the leading staples other plants could be introduced, which would pay remunerating prices, the product of these would be so much added to the money value of the crop; for unless there should be an increase in the quantity of the staples usually grown in this region, the prices may be expected to continue at rates similar to those which have prevailed throughout the last year.

In selecting a new plant for cultivation, we should regard its adaptation to the climate, soil, and habits of the people of that region where its introduction is proposed: also, the convenience of growing it in connection with other crops; the profitableness of its culture, and, finally, the nature and extent of the demand—whether at home or abroad—and other things being equal, the culture of those plants should always be preferred which are consumed nearest to the place of production. This should be regarded as a cardinal principle in political economy: and it may be confidently affirmed that where it is not observed the degree of prosperity and wealth can never be equal to the natural resources of the country.

We have, in the preceding volumes of the Western Journal, so frequently urged the observance of these principles that we should not now recur to them but that we desire to present, under one view, as many arguments as our limits will admit in favor of diversifying the crops of the Mississippi valley. There are several valuable plants the cultivation of which might be introduced or increased with profit in this region; but we shall confine our discussions chiefly to the cultivation of FLAX FOR SEED.

By reference to our commercial statistics we find that there has been a great falling off in the production of flax seed in the West within a few years past. This was a natural consequence of the Mexican war and the California emigration; for as labor becomes scarce from any cause whatever those commodities which are produced for market only, and not of a nature to be consumed at home, are the first left out of the general crop; and when once abandoned are not likely to be taken up again so long as other plants continue to pay a reasonable profit. From such causes the production of flaxseed has been greatly reduced, within a few years past. The quantity received at St. Louis, by the river, in the year 1848 was 12,257 sacks and barrels; in 1850 it was only 2,348: while, during the same period, the imports of linseed oil at this place increased from 780 barrels in 1848, to 2,587 barrels in 1850. About one half the quantity imported last year came from England: the other half from the Ohio river: and yet, we remember to have observed, some months since, that importations of foreign oil had been received at Cincinnati. The foreign article, when delivered in store at St. Louis, costs about one dollar and five cents per gallon: a price that would authorize the manufacturers at this place to give nearly, if not quite, $2.00 per bushel for flax seed.

Now, we believe, it would be difficult to find another branch of

trade throughout the entire circle of commerce involving so many curious facts, or so many absurdities, as are presented by the present condition of the oil trafic in this and other countries. England imports flaxseed from every quarter of the globe: from America, Asia, Egypt—Italy, Russia, and other parts of Europe. In Scotland, flax is cultivated on land the rent of which costs the farmer from £3 10s. to £4 per acre;* a sum nearly equal to from $17.00 to $20.00; flax seed is, or was some years since, charged with a duty upon its importation into Great Britain;† and, a duty of 20 per cent. advalorem is charged on the importation of oil into the United States; and yet, burdened with all these charges, to say nothing of freights, commissions, insurance, warehousing, merchants profits, interst on capital invested, and many other incidental charges, about one half of the linseed oil now being consumed in the heart of the Mississippi valley is imported from Great Britain. While the farmers of this country are looking to Great Britain for a market, in which to dispose of their grain, they are consuming oil manufactured there from seed grown in other countries, or, perhaps, on land in Scotland that rents for from $15 to $20 per acre: a price more than double that of the fee of their own rich prairies.

We are not practically acquainted with the culture of flax; but we are assured that no part of the globe is more favorable to its growth than the northern parts of Illinois and Missouri; and, except that the oil cake is not worth as much here as in some other parts of the world, there is not, perhaps, any other place where oil can be manufactured cheaper than in St. Louis. We are informed, by the proprietors, that the machinery now in operation, and being put up, in this city is capable of pressing 250,000 bushels of flax seed per annum. One establishment, that of H. T. Blow, is of itself capable of consuming 160,000 bushels per annum. This is the first instance, we believe, in the history of the West, where the facilities of manufacturing have so far exceeded the supply of raw material. But even this amount of machinery, if fully employed, would be inadequate to supply the demand for oil in the United States. In the year ending 30th June, 1849, we imported 1,163,647 gallons of linseed oil and 211,442 bushels of flax seed. The oil, except about 9,000 gallons came from England: 181,014 bushels of the flaxseed came from the East Indies, a country from which we imported in that year merchandize to the amount of $2,036,254; whilst our exports thither amounted only to the value of $409.524; hence it may be observed that we even import flax seed from a country that sends us four dollars worth of its own products to every one it receives of ours in exchange—the balance we of course pay in money, or with the products of other countries.

* Vide Reece's Encyclopædia. Title Flax.
† Vide M'Culloch's Commercial Dictionary.

That class of economists who regard foreign trade as the only means by which a nation can acquire wealth, would doubtless imagine that the farmers of Missouri would derive great profit by shipping their corn and pork half way around the globe to be exchanged for flax seed: but, we scarcely believe that even they would esteem it good economy to send money to the East Indies to exchange for an article which could be so easily produced at home.

But we can scarcely hope to change the pursuits of the agriculturists by arguments touching public policy or national wealth; for although, as a class, none are more patriotic, yet, it is natural that they should labor in reference to what they esteem their individual interests.

It is not our province to advise: our principal aim is to furnish such facts and arguments as to them may not be familiar.

By reference to our commercial statistics, we find that throughout the larger portion of last year, flax seed sold at $1.50 per bushel, and that in April and December they were sold as high as $1.60 per bushel. It is pertinent here to inquire whether these prices are likely to be sustained for any considerable time? The following extract from "the Boston Price Current" of 22d ultimo, contains the latest accounts we have in reference to the condition of the oil trade in this country and in England:

"The market is very quiet for Linseed Oil but firm. Sales of 1,500 gals. English at 85c. cash, and but very little in market. American is held at 85c, cash. In relation to the Linseed Oil trade, the following from the Annual Statement of Wright, Young & Wright, of Hull, England, is worthy of consideration:—"The position of the trade at the opening of the new year is not encouraging. Our stocks of Linseed are not large, prices unusually high, and the manufacture of Oil Cakes limited and unprofitable; and looking forward—with the almost certainty of deficient supplies abroad, quotations at all the export markets considerable in advance of last year's currency, and relatively much higher than in this country, and Linseed Cakes restricted in sale and depressed in value,—prospects are scarcely more promising. The one redeeming feature is the great demand and high and increasing value of Linseed Oil; but to bring the trade into a healthy state there must either be an increase in the consumption of Cake, now greatly reduced by the mildness of the season, or such a limitation of the manufacture as would act inversely on the value of Linseed and the manufactured articles; this course has of late been acted upon, nearly one-half the mills being now either engaged on Rapeseed or entirely closed, and the result is already shown, partly in curbing the upward tendency of the Linseed market, but more fully in enhancing the value of Linseed Oil and imparting a firmness to the Cake market which would otherwise not have existed. The present stocks are no more than adequate to supply the present rate of consumption into the Spring, and as but little can

be expected to arrive prior to that period, prices may, and probably will, go higher. But as respects business for next season's shipment, whether the crushers will be able to pay the high quotations now prevailing in all the export markets, must in our opinion mainly depend on an improvement taking place ih the value of Cakes."

From the foregoing statement it may be fairly inferred that the present prices of Linseed oil and flax seed will be sustained until another crop goes to market.

The question then arises whether flax seed at one dollar and fifty cents per bushel is more profitable to the grower than the crops now usually cultivated.

This is a question which the experience and observation of each farmer will enable him to answer for himself; and must be determined by the peculiar character of his soil, distance from market, and other considerations relating to the economy of his establishment. Again, it is proper to inquire into the extent of the demand; lest we should overstock the market and reduce the value below a remunerating price before any profits are realized. We have not yet received the Register's report of the commerce of the United States for the year ending 30th June 1850, but we find it stated in the Railroad Journal that there was imported during that year 1,513,117 gallons of linseed oil. Now, if we reduce this to flax seed and assume that the importation of the latter was equal to the quantity imported the preceding year we shall find a deficit of flax seed, of American growth, for the year ending 30th June, 1850, amounting to 968,000 bushels, which at present prices amounts to $1,548,800, a sum equal to about one fourth of all the flour exported from the United States during the same period. Thus it will be seen that the crops of the United States must be increased nearly one million bushels before the home demand can be supplied; and it is not reasonable to suppose that this demand can be filled in less than from two to three years; for the scarcity of seed will prevent any considerable increase in the crop of the present year.

Now, we are persuaded that if the farmers of the West will examine and properly consider the foregoing facts they must arrive at the conclusion that they cannot make a better application of their labor than in the culture of flax for the seed. We can understand the reason why iron, for instance, can be produced in Great Britain cheaper than in this country—its money value is made up almost entirely of labor—but the rent of land being the principal item in the cost of flax seed, we are unable to comprehend how it is that the English or Scotch farmer can grow this article in competition with Russia, and, that oil can be shipped from England to the United States, and, after paying freight, duties, and all other charges, drive our farmers out of their own market: when, too, they are endeavoring to produce wheat to feed the English people.

It is admitted that flax, when grown for seed, is a great exhauster of the soil: and for this reason it is said that the English farmers have, to a great extent, abandoned its culture. This is certainly a great objection to growing it as a staple: but it is not as a staple that we advocate its cultivation: it does not seem to have been designed as such by nature: for the plant accomodates itself to every climate where man can make a comfortable subsistance by agriculture. Therefore, as an article necessary to the wants of civilization, every country should produce its own supply, and each farmer sow a limited quantity of ground; but not so much as to interfere materially with his other crops. In this way our markets would be abundantly supplied; and the exhausting effects of its culture but little felt, especially where land is so abundant as in the western States.

Our information in regard to the yield of the crop per acre is too imperfect to authorize us to give an opinion on that point. We find, in the authorities which we have examined, that the crop ranges from ten to perhaps thirty bushels per acre: all agree that the land should be rich, and prepared for seeding with great care. Again, we find great discrepancies in respect to the quantity of seed proper to be sown; this will depend mainly upon the purposes for which the crop is grown. If designed for the production of a very fine fibre, the ground is very heavily seeded; but if designed for the production of seed only, it is sown thin. We have seen it stated, in an English authority, that from six to eight quarts to the acre was the usual quantity sown where it was intended for a crop of seed. All agree that the crop should be sown as early as the season will admit; but as the proper adjustment of these details depends on climate, soil, and other causes, they must be left to the experience and observation of the farmers of each particular district of country.

Great efforts are now being made, especially in England, to discover new methods of preparing and manufacturing the fibre; and discoveries have recently been announced which are calculated to give an immense impetus to flax growing, should they produce the results ascribed to them. It is affirmed that a process has been discovered that imparts to the fibre the softness of cotton, warmth of wool, and glossy appearance of silk: but the plant must be cut before the seed is ripe. Admitting these facts to be true, there will spring up a demand for flax seed that will constitute it one of the great staples of commerce; and the fibre may again become the great staple of human clothing.

ARTICLE II.

(Continued from page 192.)

No. III.

A FEW HINTS TO THE FARMERS ON THE CULTURE AND MANAGEMENT OF HEMP.

In my last article, I said that our American hemp was very dull in the east, so much so, that one holder intended offering five hundred bales at auction, as it could not be sold otherwise.

Since that article was written, a business house of our city has received a letter from one of the largest hemp houses in New York, giving the result of that sale, and indulging in a few reflections on the subject of preparing hemp, which so fully coincide with what I have written, that I have thought best to preface this article with an extract from said letter, to convince even the most incredulous, that American hemp is not what it has been, nor what it should be; and that it becomes all to unite in one common effort to raise the standard of the quality of an article of such vast importance to our State:

"The sale came off to-day, (6th inst.,) but was stopped after about 250 bales had been disposed of, mostly at $105 to $110, four and six months—quality ordinary. One lot sold as low as $95. The importance of having hemp properly dressed and prepared for market, cannot be too strongly urged upon the growers; for unless the quality the coming season is better than that of the past, it would hardly be worth while to send it here. With anything like good supplies of Russia, it would be entirely neglected, except for Bale Rope and the like uses. Nothing will illustrate the correctness of this better, than the fact, that at the present unusual difference of over $100 per ton, between American and Russian, it is almost impossible to sell the former."

Every one at all conversant with the article of hemp, will recollect that the crop grown in the year 1842, both in Missouri and Kentucky, was of a very superior quality, when compared to that which is now sent to market. Of that crop of hemp, 14,873 bales were shipped east, against 1,211 the year previous. Its quality was so well liked, and the price being cheaper than Russian, it went into almost general use; so much so, that the imports of Russian hemp for the year 1844 were only 400 tons, whilst in 1843 the imports were 4,000 tons.

As every one must by this time be convinced that we are not writing merely to while away an hour, nor to fill a column, but for the consumation of an object, which, if properly attained, will be worth millions of dollars to our State, we will now hasten on to

the few hints I promised to throw out relative to preparing dew rotted hemp for market.

I must acknowledge, that I feel conscious that I shall be touching upon a subject upon which no person could write so as to please all; but I shall be content, if I can only be so fortunate as to awaken a new interest upon this matter in the minds of hemp growers.

As it is now mid-winter, the crop of hemp grown the past summer is, for the most part, spread out upon the field to *water* or *rot*, as it is called; but I could not do justice to the subject, if I did not treat of the article in an earlier stage than this. Indeed, I should go back to the sowing in the spring, or even beyond, to the ploughing up the ground once in the fall preceding.

In all portions of Europe, where hemp is raised, the greatest care is paid to the preparation of ground, before receiving the seed. It is there invariably ploughed over three times—once in autumn, and twice in the spring. At the last ploughing, no more ground is ploughed up per day than can be followed up by sowing on the same day, as the seed falling into loose and moist ground produces in consequence a considerable increase in the crop.

Great care should also be taken to have the best and soundest seed, and not to raise more than two crops on the same spot, from seed grown on the same field.

The quantity of seed sown to the acre should depend upon the fabric intended to be made of the hemp; for if the seed be strewn thinly on the ground, the hemp will be coarse and suitable only for heavy cables or bale robe. Seed sown very thick will produce tall thin stalks, with fibres fine and silky, suitable for fine cordage, sail cloth or even fine linen.

As Kentucky can raise nearly enough hemp to be worked up into rope and bagging, I would here suggest that the Missouri farmers make an effort to raise a superior quality of hemp to manufacture into the finer fabrics, by which they will always be enabled to get the best prices; besides, if they all *try* to make the first quality of hemp, there will always be mistakes and mishaps enough to make as much poor hemp as will be wanted.

After the hemp is grown up, ripened, and is cut, it requires then the greatest care to manage it as it should be. The unfarmer-like manner of leaving hemp down, from the hook or cradle, all summer, cannot be too strongly condemned; for it blackens, sunburns, indeed ruins the hemp for all purposes, except for the most common or cheapest.

The farmer should never allow his hemp to lay longer than two or three days after it is cut, merely to cure or dry the sap that is in the stalk.

He should then have the hemp tied up into small bundles and put into shocks, so that any of the stalks not yet cured, shall become so, previous to stacking.

Nearly all of our Missouri Farmers leave their hemp in the shocks; those that do not, leave it on the ground to *rot* emphatically, because they say they have not time to stack it. To all such we would say, put in no more hemp than you can stack, and then be sure it is done in the best kind of style, to protect the great bulk of your hemp from the rains and weather.

Where is the use of a farmer ploughing up his ground, sowing his seed, cutting down the hemp, and then letting it lay there and rot, as some do; but mostly it is gotten into shocks of small dimensions, and there remains to injure by the beating rains that fall for two or three months. When the exterior of all the shocks is thus injured, and indeed the interior of them does not always escape serious damage, being so poorly protected from the weather, it is not to be expected that the lint of that hemp can ever be fair or strong. In fact, the real intrinsic value of the hemp is half gone and never can be remedied.

Stacking the hemp has several good effects. It passes through a sweat, and makes the lint fair and uniform, and this uniformity is particularly needed, since in this country we do not pull or cut the male hemp first, by several weeks, as is done in Russia, the female hemp being some six weeks later in ripening.

The whole crop of hemp being well stacked, it were best to let it remain so for one year, for the purpose of bleaching, or having it nearly as fair as water rotted, provided it is then spread out on grass lands, so that the rain and dirt will not stain the lint. This hint, however, I do not expect many of our farmers will take, as they cannot persuade themselves that they can afford to lay out of their money for a whole year, although they might get twenty-five per cent. more for their hemp by doing so. The first crop only lays over; after that they will have a crop every year of "stacked over" hemp to water and break out for market.

When the farmer spreads out his hemp to *water*, he should be very careful not to allow it to remain on the ground too long, and thus become too much watered or rotted as is more frequently the case than otherwise, as we see clearly evinced in the unusual portion of tender and dark hemp that has recently been sent to market. After the hemp is ready for the brake, too much care cannot then be bestowed upon it, as it is all important to handle it neatly and carefully, besides freeing the lint from all the wood or shives.

Some contend, and seemingly with very good reason too, that the present manner of breaking hemp is calculated to make the lint towy; as the lint upon the stalks is not all of equal length.

I would therefore recommend the farmers to draw the hemp through the brake in a manner reverse from that which is now the most common custom. Let them begin at the *butt* end of the stalks and break enough to hold on to; they can then begin to break and clean the blossom end and work on up towards the butt

end, *always* drawing the hemp through the brake, from the butt towards the blossom end.

I am very much inclined to the opinion, that if this mode of dressing hemp be adopted, that we shall see far *less* towy hemp than we now have, as there is said to be really no tow in hemp if rightly managed.

The hemp after being properly broken and dressed, should be put up into neat small hands, weighing obout a pound and a half. Indeed, a farmer should not allow any hand to break exceeding a pound or a pound and a half at once, for he can not properly handle and clean it, if he does. In Russia a few stalks only are broken at once.

We have now, in a very hasty and consequently imperfect manner, hurried through our suggestions on the preparation of dew rotted hemp for market, and have it now ready for baling. On this point there is probably more difficulty in the way than in anything else of which we have been speaking. It is here that most of the defects in the hemp are covered up. *Break tow*, *strings*, *half broken hemp*, *rotten* or *injured hemp*, and sometimes *rocks* and *dirt*, are frequently found in the interior of bales; thus injuring the reputation and price of the good hemp, by the carelessness of persons who lose sight of their interest in this staple.

As I have already extended this article too long, I shall reserve the balance of my remarks on baling for my next, adding here, in conclusion, that every farmer who raises hemp would do well to build him a good, tight hemphouse, (if he has none,) so that he can properly take care of it, after it is broken out, and not to throw it up in his stable loft or some open building, as is frequently the case, for the rain and snow to beat in upon it for two or three months.

No. IV.

SUGGESTIONS ON BALING, AND A HEMP INSPECTION LAW.

I will now redeem my promise to make some suggestions on the subject of baling hemp; a matter in which our farmers and balers have been greatly at fault. And as baling hemp *properly*, presupposes an *inspection* or a selecting out the various qualities to bale, each to itself, I have naturally concluded that wise and judicious legislation would assist us all, who have the interest of this great staple at heart, to remedy an evil that has been proclaimed aloud from every city in the east, as well as in the west.

All are doubtless aware of the crude manner of preparing hemp and baling it for market, and that something should be done, and that quickly too, to save this staple from almost utter ruin, by depreciation in quality.

Yet to hint at legislation, I fear, is something like a doctor prescribing a dose of medicine to a sick patient; the man knows that he is sick and feels that some remedy should be administered to him, but he makes a wry face and looks grum if you talk of medicine. So it may be with some of our farmers or balers when I come to offer my *legislative dose*, however *sugar coated* it may be.

I am no doctor, neither of medicine nor of *baling hemp*;—we have a few, by the way, in our State, of the latter order, whose honors are such as to entitle them to one more *degree* in that science. They should then retire in peace and contentment, to live out a happy and quiet life, with a conscious blush mantling their brow, that they have done the State some service.

I have said that judicious legislation would assist in bringing about a change in the manner of selecting and baling hemp; and I will now, with all due deference to men of experience on this subject, throw out some hints upon the proper manner of assorting hemp and baling it; and at the same time give my views of what is desirable to be done, in the way of a law, by our Legislature this winter. And I trust any suggestions I may make, will be received in the same kind spirit in which they are tendered.

With all the care and attention that the farmers can or will bestow upon their hemp, there will be unavoidably about as many qualities, when it is ready for the press, as there are in cotton, of which there are ten or twelve in the New Orleans classification, which assimilates to the Liverpool, viz:

Inferior,	Ordinary to good ordinary,
Low middling to middling,	Good middling,
Middling fair,	Fair,
Good fair,	Good and fine.

This classification of cotton is understood by the brokers and dealers in the article, as well as by the planters who raise it. It is a *misdemeanor*, and punishable by law, for a planter to falsely pack his cotton, and he knows very well that he can be sued for *fraud*, if the interior of the bale does not agree in quality with the exterior.

We have, then, several qualities of hemp, which, like cotton, should be selected at the farmer's own warehouse, where he has, or should have, plenty of room to stow the several qualities separately, previous to baling himself, or delivering it at the river to be baled.

Hemp is in another respect like cotton; it has to go to market in tightly compressed bales, so that that which is in the interior of the bale cannot be seen or gotten at well, without taking the bale to a warehouse, and cutting it open, for a thorough examination.

This process would subject the article to too much expense, inconvenience and delay; and hence the necessity of making a law to require the farmers and balers (the farmers should ultimately bale all of their hemp,) to *assort* the different qualities of hemp *previous* to baling, and to put but one quality as nearly as possible, into a bale, so that the hemp in the bale should be uniformly alike. If this can be done, and it *can* be, if the Legisiature will only *will* it so, as herein set forth, there will be no necessity for a hemp inspection in our city.

I would, therefore, suggest that our Legislature pass a law, the coming session, at an early day, to be entitled *An Act to regulate the inspection of hemp.*

Let the *act* set forth, that no person shall keep a public warehouse for the purpose of inspecting and baling hemp, until he, or they, shall have taken out a license for the same, and entered into bond in the sum of one thousand dollars, for a faithful performance of the business for which he is licensed.

I would have the license to cost a nominal sum, as I deem it iniquitous to raise revenue for the State by taxing professions and occupations, except it be where they are deleterious to the public morals.

As I have already said, there are about as many qualities in hemp as in cotton; yet, for all practical purposes, there is no necessity of having hemp assorted and marked, or branded, into more than *four* qualities, as follows: *Inferior*, *fair*, *good* and *prime*. Have the law, then, to require the licensed baler at his public warehouse, and the farmer at his own house, without a license, to make these four articles of hemp, wherever the article requires it. I would describe the four qualities thus: *Prime hemp* shall be of the first quality of dew rotted, of a *fair* or *lead* color, fine and silky fibre, that is strong and free of shives.

Good hemp is the second quality, and is of that class of hemp which has not the good color and strength of the prime; is coarser and harsher, yet containing *very few shives*, and like the prime is handled neatly.

Fair hemp is the third quality, and will include such as is tender, from over-rotting, or such as is *shivy*, *towy*, or handled roughly. This quality is generally of a dark color; and about three-fourths of that received here within the past two years, would be ranked in this class, as it has had *all* the requisites for *fair* hemp.

Inferior hemp is of the fourth class, in which we will include *all* that is below *fair*. If hemp should be watered entirely too much, so as to make it very dark and tender—although *all* the shives may be taken out—yet the lint is *inferior*, and the bale should be so branded. If, on the contrary, the hemp is not watered enough, too many shives are allowed to remain in it, and this class of hemp should also be marked *inferior*.

I have now given you four classes of hemp, which, I think, can easily be distinguished by men who understand the article, and of course such only should be allowed a license to inspect and bale hemp. It cannot be expected of a farmer or a public baler, to select the article into as many grades as there are in a Liverpool classification of cotton, although these nice distinctions do exist. Such nice shades of difference do not generally belong to the same crop of hemp, but to crops raised by different farmers. And here the good judgment of the merchant who sells, and the speculator or manufacturer who buys, is brought into requisition. Hemp should only be sold in our city by those who thoroughly understand the article, and the buyers should have an equal knowledge of it, or, they would save two commissions by paying some good hemp merchant, or broker, to purchase for them. All that can be done, all that I ask, is to give us a law, describing the four grand divisions I have given; compel the baler, whoever he may be, to bale the four qualities separately, put his name in full on a *board*, the name of the grower, the year in which it was grown, the quality and the weight; and, my word for it, we shall at once see as great a revolution in the management of hemp, as there has been in the management and baling of cotton, since the enactment of very strict laws upon the subject, by the States interested.

I think it is high time that we were learning something on this subject by experience. In Russia, where they have been growing hemp from time immemorial, and raise now 120,000 tons per annum, they have learned to manage it rightly. That Government appoints sworn *selectors*, whose duty it is to assort the hemp according to its quality; into *clean* hemp or *firsts*; *out-shot* hemp, or *seconds*; *half-clean* hemp, or *thirds*, and *hemp codilla*. They have also *sworn* balers, who are bound to bale it as selected by the *selectors*. The baler is also bound to brand the hemp very carefully, upon two pieces of lead attached to each bale for that purpose; I prefer, however, the board, as it cannot be lost so easily from the bale.

If, then, we would be wise, we would learn a lesson from Russia, and imitate her wisdom, by fostering and protecting a staple which, by care and attention, would in a very few years yield us millions per annum more than it now does.

Hemp is an article that requires the greatest care to protect it from dampness, as it will heat, directly, with the least dampness, then mould and rot. A law cannot, therefore, be too particular, in requiring steam and other boats to use care in the manner of handling and delivering it on our Levee.

I do not fancy a large bale, by any means. If tightly pressed, as all bales should be, they are too heavy, and always unsightly. A bale of hemp should be of convenient size to carry, when the ground is too damp to roll it on.

The prettiest and most convenient size bale, I think, is forty-

four inches long by twenty-two wide, and pressed down to eighteen or twenty inches; so that when the press is taken off, the hemp will not rise more than to make the bale twenty-two inches deep. We have, then, a bale that will pack into a warehouse or a boat, closely and squarely. It will weigh from three to three hundred and fifty pounds, according to the quality of the hemp, and should have seven good rope bands to hold it securely.

Could I but only inspire the hemp raiser to see his interest, as I see it, we would then begin a new and bright era in the history of hemp culture. We would no longer have the demerits of our hemp sung in our ears, until we are weary with the song.

Let farmers, legislators, merchants, and all, take hold of this important subject, and rid it of the mismanagement that has brought discredit and nearly ruin upon the staple that shall, one day, if all do their duty, be the pride of our State.

Our fine hemp lands can be made to yield an article, the *refuse* of which will be good enough for rope and bagging; whilst the better qualities can be wrought into cordage and sail cloth for our merchantmen and men-of-war, and fine linens, suitable for summer wear, can and will be made of Missouri hemp, whenever the quality will justify it.

The white sail of the American vessel that now floats upon every sea, should not only be wrought of American hemp, but it should be made to waft to the four qurters of the globe cargoes of American hemp, to compete in all the great markets with the European article.

No. V.

FACTS AND FIGURES TO SHOW THE NECESSITY OF A BETTER PREPARATION OF DEW-ROTTED HEMP, AND THAT *WATER ROTTING* SHOULD CLAIM THE ATTENTION OF OUR HEMP RAISERS.

I will now close this series of articles, by giving, in conclusion, a few facts and thoughts, to show more conclusively the importance of a better preparation of dew-rotted hemp, and the reason why our hemp raisers should turn their attention, in part, to *water-rotting*.

A writer for the *Louisville Courier*, in 1844, estimated that during that year, in the States of Kentucky, Missouri, Tennessee and North Alabama, there would be 21,000 tons of bale rope and bagging manufactured, or enough to cover 2,625,000 bales cotton; more than was required to cover the entire cotton crop. There

was, also, that year, a large surplus of rope and bagging lying over from the previous season; besides there were from 5,000 to 8,000 tons of surplus hemp, yet in hands of the farmers.

From which it will be seen that in 1844 there was a large excess of hemp and baling stuffs; and the consequence was, that these articles declined to a very low price (four and five cents for rope, and nine to ten for bagging) during the years '45 and '46. It will be recollected that during the year 1846, hemp, following in the wake of rope and bagging, went down in price, in our city, to $45 and $48 per ton, and was extremely dull at those low figures.

These prices for hemp did not pay the farmer—indeed, it had not been paying for several years previous, and, in consequence, he had to turn his attention to something else, and to shorten his hemp crop—especially in Kentucky.

In 1847, hemp began to be more enquired after, as the excess of rope and bagging was being worked off, and it gradually advanced in price with those articles, until the summer of 1849, when we saw hemp sell here at $125 and $128 per ton; rope and bagging were then worth, in New Orleans, nine and seventeen and one-half cents.

As baling stuffs advanced, more were manufactured than was used, and hence in the fall of '49, they began to give way in price again, and of course, hemp followed suit.

Thus we see our great staple governed in price, almost entirely, by baling stuffs; an article of very limited demand, when we take into consideration our advantages for the culture of hemp.

For the sake of showing the farmers how much hemp, when worked up into rope and bagging, is needed to cover a crop of cotton, we will go into a little calculation.

We will suppose that an average crop of cotton is 2,200,000 bales—this is a full average for the last two years. It is then estimated that six yards of bagging, weighing one and a half pounds to the yard, and as much weight in rope, will cover a bale of cotton—making eighteen pounds to the bale. At this calculation, it will take 17,078 tons of baling stuffs to cover a crop of cotton. But it is thought by some, who should understand the subject, that half the cotton grown in 1850 has been covered by Indian bagging and gunny bags. If this be the case this season, it will likely be so the succeeding years, at least until the present tariff shall be altered favorably for our bagging. For India bagging and gunnies, then, we deduct 4,419 tons, and we have left 13,259 tons of American rope and bagging used in covering a crop of cotton.

With this small demand of 13,250 tons to cover cotton, Missouri can supply it herself, when she raises a large crop of hemp. The crop of Missouri hemp grown in 1849, and brought to market this year, (1850,) will amount to about 10,000 tons. There has been brought to this market, also, about 1,000 tons of rope and ninety-three tons of bagging; making, all together, 11,093 tons, and

only 2,166 tons less than is required to cover the crop of cotton. This deficit could in part be made up by the hemp raised in Tennessee and North Alabama.

Some years since, an average hemp crop in Kentucky was about 15,000 tons, when that State alone raised enough to make all the baling stuffs required.—Kentucky does not now raise so much hemp as she formerly did, yet her crops will probably equal ours, in which case we will have nearly the entire Kentucky crop, or more properly speaking, the Missouri crop, as Kentucky has the rope and bagging establishments, to spare for the Eastern markets.

Since Missouri has gone to raising hemp, it is very evident that too much is raised to work merely into rope and bagging. The consequence has been, that half the time the article did not pay the farmer a remunerating price for the time and expense of raising it. It had another very bad effect, in causing large amounts of rope and bagging to be manufactured, which were not needed at the time, and causing large losses to the manufacturers.

I would not have it understood that the hemp raising States grow *too much hemp*, but I would have it emblazoned upon every paper that circulates in these States, and upon every business letter to a hemp-grower, that there is too much *poor* hemp raised.

It was thought and written, some years since, that Kentucky was in her "youngest infancy" in the culture of hemp, when she was raising 15,000 tons. That sanguine mind looked forward to an improvement in the management of hemp, and hemp machinery, until we should see our Western steamers loaded with the raw article, to be conveyed to the Eastern manufacturer, where it would be worked up into a thousand different articles, suitable for nearly as many different purposes.

Our own Missouri is, in years, in its infancy, in the culture of this valuable staple, yet she too, like Kentucky, has passed the meridian of her glory, in the culture of hemp, unless she shall arouse from her lethargy, and determine, one and all, to raise the standard of Missouri hemp, until its praises shall ring through all the land, and be echoed back from Europe's distant shore.

Hemp is an article that intrinsically has more value than cotton, when rightly prepared; yet the former is only worth four to five cents, whilst the latter is commanding twelve to fourteen cents per pound. The reason why hemp does not go into more general use in this country, and consequently bring a higher price, is found in the fact that it is so poorly prepared, that machinery is not made to manufacture it, to any great extent. Could it be expected that a capitalist would go to work and put up machinery to manufacture the various articles of hempen goods, now being successfully manufactured in Europe, when he knows that he could not get the raw material suitable for his purposes? Certainly no one would be so blind to his interest as to do so.

It then behooves the hemp raisers to go manfully to work and raise an article that is good enough to make into *fine linen*, and from that down to the coarser article of ship cables and rigging. When this shall be brought about, it will indeed be a new era in hemp, for then there will be no glutting the market, although we have in our own State hemp land enough to raise at least 100,000 tons annually. I would not have the farmer to make all of his hemp dew-rotted; not that I think he could make too much of it, if he prepared it well, but I am of the opinion, that some would find it more profitable to them, to *water rot.*

It is known to every body that water rotted hemp is more valuable than dew rotted, and commands a higher price. The process of water rotting being little understood and more troublesome, has deterred nearly every body from undertaking it. The consequence has been, that our American Navy has had to supply her demand for sail cloth and rigging from a foreign article; either manufactured in Europe, or the foreign hemp brought here and manufactured.

American water rotted hemp is equal to the best Russian, as has been proven by several experimental tests of the United States Hemp Agents.

Our government, knowing that we had the best of hemp lands and every facility for the successful cultivation and preparation of water rotted hemp, has for years been holding out inducements to the farmer to prepare hemp suitable for naval purposes.

The inducement offered, not seeming to bring about the desired object, Congress was again induced last winter, to bring up the subject of supplying the Navy with American water rotted hemp, when it could be had.

A law was finally passed to authorize the proper agents to purchase, and give preference to American water rotted hemp, at a price not to exceed the average price of the best Russian hemp for the last five years. The average price of Russian hemp for the last five years, is about $242 per ton. Thus we see our Congressmen and our Government have interested themselves in the culture and preparation of hemp, and have not thought the subject beneath them. They know that we can raise hemp that will suit our Navy, if we will, and the Government is offering every laudable inducement, in the way of good prices, to induce the hemp raiser to make an article suitable for canvass and rigging.

There is no difficulty in the way of our farmers, for a successful competition with the foreign article, if they would but only make the proper effort; for we learn from Mr. Butowsky's report to the Russian government, that in Anjou, in France, hemp lands rent higher than any other arable lands;* and that a hectare (about

* Mr. Butowsky was the agent of the Russian Government, who was sent over all Europe to inquire and report "a statement of the best means of improving the management, cultivation, and fabrication of hemp."

three acres,) will rent for $30, $36 and $40, and in the valley of the Loire, where the hemp grows best, a hectare will rent for $80. Besides the enormous tax that the European hemp raiser has to pay, in the way of rent, he has to manure the ground at quite a considerable cost.

Our farmers have not only the advantage in these items, but there is freight from the country in which it is raised, and 25 to 30 per cent. duty, that the foreign article has to pay.

And yet there is another advantage that our wealthy hemp raiser has, over the poor European peasant; he may avail himself of a recent invention to water rot by steam, and clean the hemp of shives and dress it by machinery.

A small pamphlet, published by the American Flax and Hemp Company, of Schenectady, New York, gives us this short history of this important invention—"Messrs. Billings & Harrison, of the State of Missouri, obtained in 1845, a patent for rotting hemp and flax by means of artificial heat; and at a later date a patent was granted to Messrs. Bernard & Schenck, of England, for the same invention. This process of rotting flax has been introduced in various parts of England, Scotland and Ireland, and the facts reported to the Royal Society for the promotion and improvement of the growth of flax."

We see that this same Royal Society "passed a unanimous resolution in favor of the American system of rotting," after it had made several experiments on a large as well as on a small scale. This Royal Society highly recommends, what they are pleased to term the American mode of rotting, and adds: "The value of the American mode of steeping, or its equality, in point of efficiency and economy to the usual mode, once admitted, I conceive the above facts of the most extreme importance to the country, as realizing such a large addition of natural wealth, now, to a great extent, neglected and destroyed."

This process is equally suited to rotting hemp, as to flax; and is it not a crying sin that our Missouri farmers should allow a patent of one of her own ingenious and enterprising citizens to be lost sight of, and that England, Ireland and Scotland should be called upon to do justice to it, and reap a rich harvest from it, when we equally need all the aids we can get to prepare our hemp rightly.

I can only hint at this subject now and leave all the particulars of the mode and process of rotting, together with the proper machinery for dressing, for some future occasion, when I may attempt to throw some light on these points, that may be valuable and interesting to those who would like to water rot.

If those of our farmers who have the means to prepare for *water rotting* will do so, they will not only find it profitable to themselves, but it will be of infinite advantage to those who raise *dew rotted* hemp, at least until they learn to prepare it better.

From what I have written in these various articles, it is very plainly to be observed, that there is too great a quantity of *poor* dew rotted hemp raised, and that the quantity acts as a load, or *pressure* upon the price, until the article has nearly uniformly to keep at an unnaturally low price.

What we need, then, to rid this infant staple of the load that has well nigh crushed it, is a greater care in the preparation of the dew rotted for market, and that some of our most wealthy hemp raisers should turn their attention to water rotting.

As the quality and the standard of our hemp is raised, we will see the price gradually rise with it. Is not this an object worthy the thought and consideration of our farmers and our wise legislators? This is a subject of no ephemeral or limited importance, for its importance is commensurate with the bounds of the Union, and the interst we feel in it should be as lasting as our rich alluvial lands.

The average quality of the hemp now being broken, will have much effect upon the price the comming season, and yet a greater effect, I think, upon the price the season following. It, then, behooves our farmers and our Legislature to take time by the forelock and act immediately for the interest of the article—the farmer by breaking and dressing it nicely, and the Legislature by passing a judicious law for the inspection and baling of it.

Does not every one know that the culture and preparation of hemp, as well as the machinery for breaking and dressing it, is behind every thing else in this enlightened day, and have we no pride of State to foster and encourage an article that should be its wealth? I am sure that our State is not devoid of this pride; and now that the subject is fully up for consideration and action, I shall hope to see every one do his duty.

When this shall be done, what a proud day will it be for our State. We shall then see those thousands, if not millions, of acres of fine hemp lands, that now lie through the State in their primeval grandeur, subjected to the plough and the harrow, until they shall be made to yield a golden harvest.

Article III.

THE COTTON TRADE FROM 1825 TO 1850.*

(From the Merchants' Magazine.)

Instead of our annual review of the cotton trade for a single year, we propose to extend our examinations back to a longer period. For this purpose we have collected in our statistical tables, the production, consumption, stocks, and prices of cotton for each year from 1840 to 1850, and for the more important particulars of the trade, we have gone back as far as 1825. This period of 25 years we have divided into intervals of five years, and given the average for each, noting the rate of increase or decrease for each country separately, By taking average results we get clear of the fluctuations arising from short crops and other disturbing causes, and are able to observe the general progress free from those temporary variations which prevent us judging acurately the real changes that are taking place. In this review we shall see a very prominent place assigned to our country. The United States is now not only the largest producer, but the largest consumer of cotton; our production has advanced with such rapid strides that we have distanced all competitors: the cotton goods worn by our people exceed now the amount used by Great Britain and all her dependencies in the four quarters of the globe; and the demands of our manufactories have increased with much greater rapidity than those of any country in the world.

In the Table of supplies (table I. at the end of this article) we may observe that while other countries have been nearly stationary our production has advanced with great rapidity. In twenty years our average crop has increased from 848,000 bales to 2,351,000, or nearly three hundred p. ct. If the period of twenty-five years, from 1825 to 1850, be divided into five equal intervals, the increase for each will be found to be 27, 37, 38, and 15 per cent. In the same time, the production of all other countries has only risen from 383,000 to 440,000 bales, having absolutely declined in the last five years, over 16 per cent. In the first period of five years, the crop of the United States constituted 68 per cent. of the whole; in the second, 74; in the third, 77; in the fourth, 80; and in the fith, 85 per cent of the whole. As our bags have increased very

* The following article relating to the cotton trade will be found interesting and useful to men engaged in every branch of business; for so important is the article of cotton in the commerce of the civilized world that the value of almost every other commodity, at least in the United States, is affected by any material change in its price. We have not the means at hand to enable us to decide upon the accuracy of the facts and figures of the learned author of this treatise, but we are persuaded that they are sufficiently near the truth for all practical purposes.

We need not invoke the spirit of prophecy to enable us to predict how long it will be ere the population of the United States will consume an amount of cotton equal to that grown within our territory; for the simple rules of arithmetic, applied to the facts before us, will lead to conclusions sufficiently accurate to guide the statesman and political economist. It is possible that in this age of discovery a substitute may be found for cotton, at least in part, but should no such discovery be made, many now living will witness the importation of raw cotton into this country. Editors.

much in weight, and are now much larger than those of other countries, our advance has been still greater, and our rank still higher, than these figures indicate.

If the table of consumption (table II.) be examined, it will appear that our progress is none the less rapid in comparison with other countries. In the same twenty years, the deliveries to our manufactories have advanced 325 per cent, viz: from 127,000 bales to 539,000; while in the same time the advance of Great Britain has been only 125 per cent, viz: from 653,000 bales to 1,472,000. In each one of these periods, our rate of progress has been more than twice as rapid as hers; and though the absolute amount of our consumption is yet far below that consumed by the English manufacturers, yet in the last five years, our increase has been 176,000 bales, while theirs has been only 180,000. At present our consumption is 37 per cent of the English, while twenty years ago, it was only 19 per cent.

France, during all this period, has remained nearly stationary. Twenty years ago her consumption was 257,000 bales—now it is only 363,000. In the last five years she has gone backwards, the decline having amounted to 58,000 bales. From 1825 to 1830 the deliveries to her manufactories were double those of the United States, now they are 33 per cent less than ours. Her rank compared with Great Britain, and with nearly every other country in Europe, has also declined.

In Spain, Belgium; Holland, Germany, and Russia, the increase has been nearly as rapid as in the United States. In the last five years their advance (table III.) has been 46 per cent, ours 49 per cent. Their rank in the cotton consuming countries is yet low, but their rapid progress will soon bring them to a more important position. At present their consumption is 34 per cent of that of Great Britain, and the time is not far distant when, taken together, they will equal her.

Twenty years ago, the comparative rank of the United States, Great Britain, France, and the rest of the continent, was in proportion to the numbers 11, 55, 22, and 12; in the last five years, the per centage of each has been 19, 51, 13, and 17. If France be left out of the comparison, the rank of each twenty years ago, was as 13, 70, and 17; now it is as 21, 59, and 20.

Although Great Britain requires for her manufactories more than half of all the cotton worked up in Europe and America, the amount actually used by her people, including all that is exported to India, British America, Australia, and all the colonial dependencies of Great Britain, is less than the amount used in the United States. This has been shown to be true for the last four years, and the present year, although it exhibits an apparent decline in our home consumption, forms no exception to this result. The enlarged imports of cotton goods into our seaports, compensate in part for the falling off in the wants of our factories.

If we compare the progress in the demand and supply, it will be seen that during the last five years the consumption has increased much faster than the production—the one having advanced nineteen per cent, and the other only nine. This might be inferred from the decline in the stocks, but it will be more satisfactory to consider the average production and consumption of the last ten years. The average amount taken by the manufacturers from 1840 to 1845 was 2,414,000 bales, and from 1845 to 1850, 2,869,000 bales, showing an increase of 455,000 bales; while the supply advanced from 2,561,000 bales to 2,791,000, with an increase of only 230,000 bales. When it is remembered that the last period embraces the year 1847, when from the revolutions of Europe, the consumption declined over 600 bales, and the years 1845 and 1849, when the American crop so far exceeded its usual average, this result will be more striking and important. The table of stocks (table IV.) confirms and establishes this same result. At the end of 1844 the cotton on hand in Europe was 1,101,000 bales; at the end of 1849 it was only 646,000 bales.

It may further be observed that the increase in the supply during the last five years has been slower than the natural increase of laborers. The advance in the one has been only 9 per cent, and in the other 12 or 13, As many new hands have been brought to the Southern States during this period, the rate of increase in the working force of the cotton growing States has been still greater than 12 or 13 per cent. This excess has occurred at no former period. From 1825 to 1850 the increments for each period of five years have been 18, 32, 33, and 9 per cent—always above the increments of population, except in the last interval. It follows from this that labor and capital have found other modes of employment more attractive and profitable than the raising of cotton. It is well known that this has been to some extent true in the United States, but it has been more evident and striking in India and Brazil. In these countries the crop has declined 16 per cent in the last five years. From Brazil it has declined regularly for the last twenty years, and the recent advance in coffee will tend to divert still more labor from the production of cotton. The abolition of the discriminating duty in favor of East India cotton by Sir Robert Peel, and the very low prices which have recently prevailed, have not only stopped any increase in the imports of Surat and Madras, but turned the current in the opposite direction. The advance in the fifteen years before 1845 was 10, 80, and 60 per cent in each interval of five years, but from 1845 to 1850 the decline has been 24 per cent.

It may fairly be deduced from this that the prices of the last five years have not afforded sufficient encouragement to production, and that the planters may now look for a permanent improvement in prices. The table of prices (table V.) shows that for the last five years the average price at the sea-ports of the United States

has been seven cents and three mills, and it may be expected with confidence that they will not rule so low hereafter—that the average rates will not merely experience a temporary rise, as if caused by the short crop and the small stocks of the present year, but a permanent and continued advance.

The table of stocks (table IV.) represents the amounts on hand in the sea-ports of Europe continually increasing from 1840 to 1845, while during the four years ending in 1849, they have been nearly stationary. Comparing them with the wants of the manufacturers, as is done in the column which contains the number of weeks that the stocks would supply the consumption of the factories, the supply was a trifle lower at the close of 1849, after the receipt of the largest crop ever brought to market, than it had been during the last ten years. The number of bales was a little greater than at the close of 1848, but the time this stock would supply the wants of the manufacturers was a little less.

After this review of the history of the trade in cotton for the last ten years, if we remember that the production of 1850 has been much below the average of the last five years, and that the prospects of the next year's crop are but little better, it is evident that the present advance in cotton is founded on no speculative basis, but on the unchangeable laws of supply and demand. Two short crops are succeeding each other, while the stocks on hand are very much reduced. To this it may be added, that every thing is favorable to a large consumption. Peace every where prevails except in the unimportant Duchies of Schleswig-Holstein. Money is abundant and the currency everywhere undisturbed. Food is very cheap. The present harvest of Europe as well as the last, is much above the average. Thus, while stocks are low, and the supply small, the demand is large. Prices, therefore, must maintain a high level, unless commotions in France or some unforseen event of commanding importance interfere with the regular operations of commerce.

In considering the supply and demand of the coming year, we must therefore, base all our estimates on high prices. The receipts from India and Brazil, and the consumption in Europe and America, will all be affected by this fact. If the advance were slight, it would not experience any sensible check, but when the price has risen to its present rate, (13½ cents for middling fair, Savannah, October 23d,) an advance of 85 per cent over the average of the last five years, the amount purchased, even in our country, may be expected to decline.

The supply for 1851 will probably exceed that of 1850, not only from the United States, but from India and Brazil. The past season here has been unfavorable for the growth of cotton, but its disasters, especially in the west, have not been as severe as in the preceding year. In South Carolina and Georgia there will be a decided decline. The late cold spring, and the long drought in

June and July, left the plant small and the bolls few and scattering. The severe storm on the 24th of August blew out on the ground much open cotton, and prostrated and twisted the stalks so much that there has been no late crop of forms to mature in October. September was a beautiful season for gathering and so was much of October. There are some plantations where the crop is very fine. The hot summer favored a rapid growth, and repaired in part the injury done by a late spring. The general drought was, at some places, relieved by local showers, which brought out some superior crops. The amount of land planted was greater than ever. The receipts at Charleston and Savannah will also be increased by the extension of the Georgia Railroad to the Tennessee River. Were it not for this last cause a falling off of 100,000 bales might be anticipated. With this the deficiency will not probably exceed 70,000 or 80,000, and the receipts of these two ports may be expected to reach 650,000 bales. From Alabama the reports have not been so disastrous. The spring was late and the stand poor, but the dry summer prevented the ravages of the worm which had done so much damage the preceding year. The river floods had also done harm last season, and these they have escaped. The prairie lands have not suffered so much with rust as before. On the Tombigbee and also on the Black Warrior, the prospects of the planters are very much above those of last year. On the Alabama, the promise is about the same as last year, Still the disasters have been severe, and the crop will be below an average. An increase of 90,000 or 100,000 bales in the receipts at Mobile, including the Montgomery shipments to New Orleans, may with confidence be anticipated. From Florida a slight increase may be looked for. The amount of land planted has been considerably enlarged, and the drought has not been as general as in the eastern part of the cotton region. At New Orleans and in Texas a gain may be looked for. The failure last year was so great that it is almost impossible to expect a like deficiency again. From Louisiana, Arkansas and the greater part of Mississippi, the reports have been better than last year. The early frost of October 6th injured not a little of the cotton as far north as Memphis, but in general even in Tennessee the plant remained green and flourishing, till the general frost at the close of the month. The production of Tennessee and North Alabama will fall below that of last year, and a portion of this will not reach New Orleans. The crop was every where backward, but the hot, dry summer helped to repair this damage, and by keeping off the caterpillar and boll worm permitted the forms to mature. The severe storms that did so much harm in Florida and the Atlantic States did not extend so far to the west. The season for gathering has been very fine, and the time of frost late enough to mature nearly every boll that could make cotton. The average receipts at New Orleans for four years past have been 943,000 bales, and this

period includes two short and two full crops. For the present year I would estimate them at 850,000 bales. Combining these estimates, the whole supply from the United States will amount to 2,200,000 bales, (see table VI.) which is about 100,000 in advance of the last crop, but considerably below the average of the last five years.

The receipts from India have increased very much during the present year under the stimulus of high prices, and they are destined to advance still more for the coming season. The purchases now making in Bombay for the English market are reported to be large, and when the new crop begins to arrive at the sea-ports, the current will turn still more strongly towards England. Not only is their production enlarged by high prices in Europe, but a larger portion of the crop is diverted from China, and from domestic use for the western market. The average imports into Great Britain for the last three years have been 211,000 bales, but for the first nine months of this year they have reached 128,000 bales for Liverpool alone, and for the whole year, for all the ports, they will probably reach 300,000 bales. For 1851 not less than 325,000 bales may be anticipated. This is higher, much higher than any former year. The year 1841 was the largest before 1850, and then the amount was 275,000 bales. The high prices that are now prevailing, and that are likely to prevail for the present season, authorize us to expect an increase even over the present year. (Table (VII.)

From Brazil, Egypt, and other places, an advance over the usual average may also be looked for. The average imports into England from 1845 to 1849 were 175,000 bales, but for the present year the amount will exceed 260,000 bales, and for 1851 will be still larger. (Table VIII.) If we estimate them at 275,000, the whole supply from all the sources (table IX.) will reach 2,800,000 bales.

In reference to the consumption we may remark that the purchases for our home manufactories have declined during the present year over 30,000 bales. The high price of the raw material, the low duties on foreign goods, and the immense imports of cotton fabrics from England, have caused this retrograde movement. In 1849 there was a falling off of 14,000 bales, so that our consumption is now 44,000 bales below that of 1848. Doubtless the stocks in the hands of the manufacturers are very small, and a slight advance in goods would set all the mills at work again. The universal prosperity of the country forbids us to expect the extension, or even the continuance of this depression. For 1851 I would estimate the demand at 500,000 bales, which is 11,000 above the consumption of the present year, (table X.) and 13,000 below the average of the last three.

In Great Britain the falling off in the purchases of the manufacturers have been very slight, (table XI.) and as the reported pur-

chases last year were 80,000 or 90,000 bales above the actual deliveries to the manufacturers, the real deficiency is less than the apparent. For the present year the consumption in Great Britain will not be below 1,500,000 bales against 1,588,000 in 1849, and 1,491,000 in 1848. Everything has been favorable to a large consumption except the price of the raw material. Money has been abundant—food of all kinds cheap—and labor well rewarded. These elements of prosperity have not been confined to Great Britain, and therefore, her exports of cotton goods have been unprecedently large. The home and foreign demand being both good, the factories have run full time in spite of the high price of cotton. This never occurred before, and cannot be expected again with any considerable confidence. At every former period an advance in the raw material has checked the demands of the factories, and lessened the purchases of the consumers. For the coming year everything is fully as favorable as the last; and if these favorable tendencies have counteracted the tendency of high prices in the raw material, it will be proper to expect the same for 1851 as for 1850. We may, therefore, set down 1,500,000 bales as the probable English consumption for the next year.

In France there has been a decided decline (table XII.) in the deliveries to the manufacturers. Our exports have fallen from 368,000 bales to 290,000, and the stocks on hand on the 1st of October were almost exactly the same as last year. The purchases at Havre for the first nine months of the present year have been 249,000 bales, against 290,000 in 1849. From these figures we cannot estimate the consumption of American cotton for the present year higher than 300,000 bales, against 351,000 for 1849. No advance on this can be expected for the next year, nor is there any reason to anticipate any appreciable decline.

For the rest of Europe, we have the exports from the United States for the present year 194,000 bales, and the exports from Liverpool up to October 11th, 193,000 bales. The whole English exports of 1849 were 254,000 bales, and as their amount on October 12th was 21,000 more this year than last, the whole exports for the year from all the ports will probably reach 275,000 bales, making the total supply from these two countries of 469,000 bales. As the stocks on hand on the continent last year were very low, it is impossible to reduce them much lower. They are now, however, at several ports, lower than last year, so that the consumption will probably exceed 469,000 bales. As this is a decline of over 100,000 bales from 1849, it is not to be expected that so low a limit can be reached for the year 1851. Heretofore their progress has been forward and rapid, and were it not for high prices this would continue. If we estimate their wants for 1851 at 500,000 bales, we have the total consumption (table XIII.) at 2,800,000 bales—the same as the supply. As the stocks are now much lower than last year (table XIV.) and as they were then very low, they

low, they will bear no farther reduction without a material advance in prices. On the contrary, any decline in price would immediately permit the consumption to expand, not only in France and the rest of the continent, but even in England. We may expect, therefore, that the present high range of prices will be maintained.

The review that has been taken of the supply and demand shows that the present advance in cotton is the result of no speculative movement, but that it is based on the imutable laws of trade. The long prevalence of low prices has stimulated consumption and diminished production, until the stocks on hand have fallen to an extremely low limit. Exactly at this point an unfavorable season has lessened the crop, and an abundant harvest and every other element of general prosperity, has encouraged the demand. We congratulate the planters on the handsome returns they are receiving for their crops, and we may extend our congratulations to the whole country, for what benefits them is a benefit to all.

TABLE I.

SUPPLY OF COTTON.—IN THOUSAND BALES.

	U. States crop brought to the sea-ports.....	U. States consumed in the South.....	Total U. States crop.....	East India imports into G. Britain.....	Brazil, &c., imports into G. Britain.....	Brazil, &c., imports into other places.....	Total besides U. States...	Total of all kinds...
1840.....	2,178*n*	50	2,228	216*h*	146*h*	111	473*c*	2,701
1841.....	1,635*n*	55	1,690	275*a*	166*a*	128	569*c*	2,259
1842.....	1,684*n*	55	1,739	255*h*	124*h*	166	545*c*	2,284
1843.....	2,379*n*	60	2,439	182*h*	165*h*	176	523*c*	2,962
1844.....	2,030*n*	60	2,090	234*a*	197*h*	80	511*c*	2,601
1845.....	2,395*n*	65	2,460	155*h*	201*h*	105	561*c*	2,921
1846.....	2,101*n*	70	2,171	95*b*	155*a*	69	419*c*	2,490
1847.....	1,779*n*	80	1,859	224*a*	135*a*	122	481*c*	2,340
1848.....	2,348*n*	90	2,438	228*h*	137*h*	36	401*c*	2,839
1849.....	2,729*n*	100	2,829	182*h*	245*h*	111	538*c*	3,367
Av. from 1825 to 1830....	838*n*	10	848	73*h*	211*h*	99	583	1,231
" 1830 to 1835....	1,055*n*	20	1,075	81*h*	186*h*	108	375	1.459
" 1835 to 1840....	1,440*n*	35	1,475	144*h*	196*h*	104	444	1,919
" 1840 to 1845....	1,981*n*	56	2,037	232*a*	160*a*	132	524*c*	2,561
" 1845 to 1850....	2,270*n*	81	2,351	177*a*	175*a*	88	540*c*	2,791
Inc. p. ct. in 20 years....	171		177	142	17		15	117
" 15 years....	115		119	118	8		17	92
" 10 years....	58		59	23	11		1—	45
" 5 years....	15		15	24	9–		16	9

TABLE II.

CONSUMPTION OF UNITED STATES, GREAT BRITAIN, FRANCE, AND OF EUROPE AND AMERICA—IN THOUSAND BALES.

	U. States north of Richmond.	Total for U. S.	Total for G. Britain.	U. States cotton in France.	Total for France.	Total for these three.	Total for Europe & America.
1840	295*n*	345	1,271*a*	374	440*a*	2,056	2,370
1841	297*n*	352	1,158*a*	368	442*a*	1,932	2,252
1842	268*n*	323	1,027*a*	364*a*	442*a*	1,972	2,310
1843	325*n*	385	1,385*a*	351*a*	409*a*	2,179	2,573
1844	347*n*	407	1,438*a*	335*a*	392*a*	2,237	2,564
1845	389*n*	454	1,574*a*	351*a*	419*a*	2,447	2,918
1846	423*n*	493	1,574*a*	360*a*	403*a*	2,470	2,968
1847	428*n*	508	1,131*a*	252	293*c*	1,932	2,296
1848	532*n*	622	1,491*a*	276	303*c*	2,416	2,901
1849	518*n*	618	1,588*a*	351	399*c*	2,605	3,264
Av. frm 1825 to 1830	117*n*	127	653*h*		257	1,037	1,187
" 1830 to 1835	175*n*	195	876*h*		269	1,340	1,540
" 1835 to 1840	240*n*	275	1,069*h*		349	1,693	1,943
" 1840 to 1845	307*n*	363	1,292*a*		421	2,076	2,414
" 1845 to 1850	458*n*	539	1,472*a*		363	2,347	2,869
Inc. p. ct. in 20 years	290	325	125		41	129	142
" 15 years	161	176	68		35	77	86
" 10 years	91	96	38		4	40	48
" 5 years	50	49	14		14–	14	19

TABLE III.

CONSUMPTION OF EUROPE AND AMERICA, OMITTING ENGLAND, FRANCE, AND THE UNITED STATES—IN THOUSAND BALES.

	Exports from U. States.	Exports from G. Britain.	Direct imp's from Egypt.	Stock, January 1.	Stock Dec. 31.	Consumptioa.
1840	182*m*	123*a*	49	72	112	314
1841	106*m*	116*a*	74	112	88	320
1842	132*m*	138*a*	88	88	108	338
1843	194*m*	119*a*	118	108	145	394
1844	144*m*	141*a*	23	145	126	237
1845	285*m*	122*a*	37	126	99	471
1846	205*m*	194*a*	26	99	26	498
1847	169*m*	215*a*	81	26	87	404
1848	255*n*	192*a*	9	87	58	485
1849	322*n*	254*a*	63	58	38	659
Average from 1840 to '45						338
" 1845 to '50						495
Increase per cent in five years						46

TABLE IV.

STOCKS, 31ST OF DECEMBER—IN THOUSAND BALES.

	Liverpool	G. Britain	Week's consumption in G. Britain	Havre	France	Rest of the continent	Whole of Europe	Week's consumption
1840	366*g*	464*g*	18	80*d*	97*d*	112	673	17
1841	430*g*	538*g*	24	90*d*	135*d*	88	761	21
1842	457*g*	561*g*	24	109*a*	138*d*	108	807	21
1843	654*g*	786*g*	29	101*a*	125*d*	145	1,056	25
1844	745*g*	897*a*	32	53*a*	78*d*	126	1,101	26
1845	885*g*	1,057*a*	35	52*a*	65*a*	99	1,221	26
1846	439*g*	547*a*	18	25*a*	47*a*	26	620	13
1847	364*g*	451*a*	16	43*a*	53*a*	88	591	17
1848	393*h*	498*a*	17	20	31*a*	57	587	13
1849	468*h*	559*a*	18	38*a*	49*a*	38	646	13

TABLE V.

AMOUNT, VALUE, AND PRICES OF AMERICAN COTTON.

	Exports in millions of pounds....	Value in millions of dollars.....	Price of exports.....	Whole crop of U. States.	Value of U. States.....	Liverpool prices of Uplds in pence.
1840	744*r*	64*r*	8.6	891	77	6*h*
1841	530*r*	54*r*	10.2	684	70	6¼*h*
1842	577*r*	40*r*	8.1	704	58	5⅜*h*
1843	817*r*	49*r*	6.0	988	59	4⅝*h*
1844	664*r*	54*r*	8.1	857	69	4⅞*h*
1845	873*r*	52*r*	6.0	1,009	61	4⅜*h*
1846	548*r*	43*r*	7.9	901	71	4⅞*h*
1847	527*r*	53*r*	10.1	771	78	6¾*h*
1848	814*r*	62*r*	7.6	1,011	77	4¼*h*
1849	1,027*r*	66*r*	6.5	1,174	76	5⅛*h*
Average from 1825 to 1830	219*r*	28*r*	12.8	288	37	7¼*h*
" 1830 to 1835	312*r*	34*r*	10.9	387	42	7¼*h*
" 1835 to 1840	446*r*	64*r*	14.4	560	81	8¼*h*
" 1840 to 1845	666*r*	54*r*	8.1	825	67	5½*h*
" 1845 to 1850	754*r*	55*r*	7.3	972	71	5⅛*h*

TABLE VI.

UNITED STATES CROP.

	Receipts.			Estimate.
	1848.	1849.	1850.	1851.
Texas.....bales	40,000	39,000	31,000	50,000
New Orleans	1,191,000	1,094,000	782,000	850,000
Mobile	436,000	519,000	351,000	440,000
Florida	154,000	200,000	181,000	190,000
Georgia	255,000	391,000	344,000	300,000
South Carolina	262,000	458,000	384,000	350,000
Other places	10,000	28,000	24,000	20,000
Total	2,348,000	2,729,000	2,097,000	2,200,000

TABLE VII.

ENGLISH IMPORTS FROM EAST INDIES.

	Imports.	Remarks.
1835 to 1840, average.....bales	144,000	High prices.
1840 to 1845, "	232,000	Chinese war.
1845 to 1850, "	177,000	Peace and low prices.
1848, October 6, Liverpool	93,000	Moderate prices.
1849, October 5, "	69,000	Low prices.
1850, October 4,	128,000	High prices.
1848, whole year	228,000	Moderate prices.
1849, "	182,000	Low prices.
1850, estimate for whole year	300,000	High prices.
1851, " "	325,000	High prices.

TABLE VIII.

ENGLISH IMPORTS FROM BRAZIL, EGYPT, ETC.

Year.	Ab't the 1st October, Liverpoo.	Whole year for Great Britain.	Year.	Ab't the 1st October, Liverpool.	Whole year for Great Britain.
1846.....bales	121,000	155,000	1849.....bales	178,000	245,000
1847	75,000	135,000	1850	203,000	260,000
1848	94,000	137,000	1851	.....	275,000

TABLE IX.

SUPPLY OF COTTON.

	1849.	1850.	1851.
Crop of the United States.....bales	2,729,000	2,097,000	2,200,000
English imports from East Indies	182,000	300,000	325,000
English imports from other places	245,000	270,000	275,000
Total from these sources	3,156,000	2,667,000	2,800,000

TABLE X.

UNITED STATES CONSUMPTION.

Years.	Amount consumed.	Average for three years.	Increase per cent per annum.	Increase per cent for three years.
1846	423,000	386,000	9.0	23
1847	428,000	413,000	7.0	32
1848	532,000	461,000	11.5	30
1849	518,000	493,000	7.0	28
1850	488,000	515,000	4.0	24

TABLE XI.

DELIVERIES TO THE TRADE AT LIVERPOOL.

	1849.	Consumption each week.	1850.	Consumption each week.
March 8 ....bales	324,000	36,000	227,000	25,222
April 12	433,000	30,929	338,000	24,143
May 10	562,000	31,222	501,000	27,833
June 21	748,000	31,167	672,000	28,000
July 6	835,000	30,926	742,000	28,222
August 9	1,037,000	32,206	907,000	28,942
September 6	1,141,000	31,694	981,000	28,029
October 4	1,220,000	30,500	1,086,000	27,150
October 11	1,287,000	31,390	1,116,000	27,219

TABLE XII.

DELIVERIES TO THE TRADE AT HAVRE.

	1849.	Consumption each month.	1850.	Consumption each month.
May 1....bales	120,141	30,035	103,428	26,482
July 1	193,971	32,328	167,653	27,942
August 1	243,040	34,720	200,650	28,664
September 1	279,541	36,442	332,190	29,024
October 1	290,585	36,328	249,707	27,523

TABLE XIII.

CONSUMPTION.

	1849.	1850.	1851.
Great Britain, of all kinds....bales	1,588,000	1,500.000	1,500,000
France, of American cotton	351,000	300,000	300,000
The rest of the continent	596,000	470,000	500,000
Total	2,535,000	2,270,000	2,300,000

TABLE XIV.

STOCKS AT RECENT DATES.

	1849.	1850.
Liverpool, October 9....bales	582,000	482,000
Havre, October 9	46,000	46,000
United States, September 1	155,000	168,000
Hamburg, October 1	5,000	2,000
Total	788,000	693,000

[*n*] New York Shipping and Commercial list. [*h*] Circular of George Holt and Company. [*a*] Average of several authorities. [*b*] Circular of Daniel Buchanan and Company. [*c*] Circular of Collman and Stollerfoht. [*m*] Hunt's Merchants' Magazine. [*r*] Report of the Secretary of the Treasury. [*g*] Burn's Commercial Glance. [*d*] Circular of Messrs. Todd, Jackson and Company. [—] Minus, after any number, signifies decrease.

ARTICLE IV.

ON ANHYDROUS STEAM, AND THE PREVENTION OF BOILER EXPLOSION. BY DR. HAYCRAFT, GREENWICH.*

From the London Mechanics' Magazine.

In the London Mechanics' Magazine, Mr. Frost, of New York, has with much talent developed his views on dry or anhydrous steam, which, on the supposition of its having its own atomic constitution, he denominates *stame*. He has given experiments which open a vast field for improvement, and his conclusions lead us to believe that the power of the steam engine may be prodigiously increased. Having, about twenty years since, entertained nearly the same views as Mr. Frost, and having abundant reason to modify them, it may not be amiss to give a historical detail of the principal facts on which those opinions were founded. It will be at least advantageous to the reader, by warning him of those errors by which I have been misled, and will at the same time open to him the right path to improvement.

Being induced by the experiments of Broughton, who supposed that steam was 10,000 times rarer than water, and also by those of Desagulier, who put it down at 14,000, I experimented by weighing steam in a copper ball, and afterwards weighing the same after having immersed it in boiling oil for some time, for the purpose of superheating and rarefying the steam. The particulars of this experiment I need not detail, as it is, I now perceive, liable to same objections as Mr. Frost's, which I will afterwards explain. The result was, that by exposing steam to the temperature of boiling oil, its specific gravity appeared to be lessened to about one-tenth; that is, it expanded to about ten times its former bulk.

Encouraged by this apparently satisfactory experiment, I had a small steam engine constructed, with a cylinder of 4 inches, and furnished with a tubular condenser, by which I could measure exactly the quantity of steam consumed. The cylinder was furnished with a jacket, which was supplied by a small high-pressure boiler.

On working the engine with ordinary steam, it required 85 revolutions to fill a given measure with the condensed steam; but on applying steam to the jacket of about 500 pounds pressure, it required 920 revolutions to fill the same measure—the engine in both instances carrying the same weight on the paul. In this experiment, which was often repeated, it appeared that dry steam, or

*We copy the following article from Appleton's Mechanics' Magazine, where we find it published without comment. We do not profess to be sufficiently acquainted with the properties of steam to decide on the correctness of the author's views; but the subject is one of no ordinary importance to every part of the civilized world; and we commend it to the consideration, especially of the Civil Engineer and all those immediately interested in the use of steam as a motive power. EDITORS.

Mr. Frost's *stame*, is ten times more economical than ordinary or hydrated steam.

Having succeeded thus far, a high-pressure engine was erected, with a 9-inch cylinder and 3 feet stroke: the cylinder was so constructed that a fire could be made round it, and at the same time the supply steam passed through tubes exposed to the heat of the furnace flues. The engine worked very well for some time, and with surprising economy of fuel; but, as might be expected, the parts exposed to high temperature gave way, and the engine became useless.

Afterwards I had a small engine, with the cylinder immersed in a mercury bath, with a metallic piston; this engine also gave great satisfaction for a time. It however occured to me one day to make a calculation of the actual working of these engines; and I found, to my astonishment, that, although my rarefied steam or "*stame*" had, as I believed, ten times the rarity of ordinary steam, yet its performance was in all these cases about equal to what it should be, supposing it to have the rarity ascribed to it by Watt—namely, 1728 times greater than that of water. On examining this subject carefully, I fortunately recollected the remarkable admission of Watt, that in his best engines there was a consumption of steam double of what was required by calculation. We have here two remarkable facts: one is, that a large engine, of Watt's best construction, consumes twice as much steam as it should by calculation; and the second is, that a small engine, carefully made, requires ten times as much as is sufficient under a different management.

This must be explained either by supposing there is some waste in the usual mode of operating with steam, or that, by superheating it, there is an absolute expansion of its volume.

To settle this latter point, the following experiment was made, which, though performed many years since, has never been published. The experiment was designed to ascertain the density of steam, but chiefly to determine what effect a superheating of it would produce.

A graduated tube was filled with mercury, the upper end being closed, and the lower immersed in a basin of mercury. Oxygen and hydrogen were introduced in the proportions which constitute water, to a certain mark which was noted. Two coated wires being introduced at the lower end, the gases were detonated, and, of course, reduced to water. The whole was placed in an oil bath, gradually heated to 210°, when steam was formed filling the tube to a point marked. On this a calculation was made which came so near 1728, the expansion assigned by Watt, that I was satisfied of its general correctness. Having ascertained this point, I proceeded to determine the other, which to me was of the greatest importance, namely, how far an additional temperatnre would expand the steam, expecting that, at all events, it would have as much

effect as is ascribed to it by Gay Lussac and Dalton, namely, as doubling the volume for every 480°. My surprise was indeed great, when I found that an increase of 10° made no perceptible difference in the volume of the steam. I then gradually raised the temperature of the oil bath to 285° without perceiving the least expansion ; indeed it appeared very slightly to have contracted its bulk—arising, I suppose, from the expansion of the glass tube. I did not raise the temperature higher—my apparatus, unfortunately, not admitting of it—and I was completely satisfied that an additional temperature of 75° did not expand the steam. The experiment was several times repeated with the same result.

How can this experiment be reconciled with those of Mr. Frost, who finds that an addition of 4° doubles the volume of the steam? There is such an air of candor about Mr. Frost's communications, that I am disposed to give full credit to the facts which he details, and the only way I can think of to reconcile the discrepancy, is to suppose that some mismanagement has taken place either in his experiments or mine. On examining his apparatus, as represented in figs. 4 and 5, page 252, No. 1390, and his mode of using it, I find that the whole syphon is filled with water, which, being converted into steam at a high temperature, the superabundant water escaping, is thereby filled with *stame.* The syphon being then hermetically sealed up, was suffered to cool ;—an engineer's vacuum, as he aptly terms it, is formed. Now, in this process it must be observed, that the whole interior of the syphon must be covered by very minute globules of water. The mercury is then introduced, which would fill the syphon with the exception of these minute globules, which would be every where interposed between the quicksilver and the inner surface of the tube. Then, on applying heat at the boiling point, the globules of water at the upper part of the syphon only are converted into steam; the remainder is kept in the aqueous form by the weight of the column of mercury incumbent upon it, so that it is no wonder that an addition of 4° temperature would convert some of the globules of water into steam of double the whole column. The other instruments used by Mr. Frost are still more complicated, and I fear in their use would give rise to the same errors; and, as all the experiments were conducted in nearly the same manner, the results would be similar in them all. In such experiments the utmost care should be taken to operate in perfectly dry tubes.

Having said thus much in reprehension of the mode in which Mr. Frost's experiments were conducted, I will gladly take this opportunity of acknowledging the great importance of the experiments themselves, and of the relation of the oil of turpentine and the fixed oils to minute globules of water exposed to high temperatures. His papers deserve a most attentive perusal, especially his remarks on boiler explosions, to which we shall refer.

We shall now be able to return with advantage to the fact, that

in the small engine spoken of, as an additional temperature does not expand the steam, and as when the steam was superheated the engine consumed only the quantity that it should have done by measurement, it will follow that the same engine, when it was worked with ordinary steam, and consumed ten times as much as in the former case, must have consumed ten times as much as it ought to have done by measurement. Then comes the question, What occasions the loss? The same question applies to the other case, namely, What occasions the loss of one-half of the steam, which, we have seen, was the opinion of Mr. Watt himself, in his best engines? It has been stated that Watt ascribed this loss to unavoidable leakage by the piston, &c.; bnt on consulting several engineers on the subject, it appears that no very considerable loss could happen from this cause, as he took great pains in the finishing of his cylinders and pistons. It also appears that he had at least a suspicion of the true cause, which will be hereafter explained; namely, a cooling which takes place within the cylinder. The evidence of this is, that he took great pains to prevent it by clothing the working cylinder with non-conducting substances, and even surrounding it with steam in a jacket.

While conversing with my brother on this subject, he remarked that he thought the cylinder was cooled by the evaporation which took place within it during the time of the vacuum, as the interior surface must be covered with a film of water every time the steam is admitted. The cause of the evil now appeared quite clear. The engine at first starting is, of course, colder than the steam; it therefore becomes loaded with the water; a vacuum is made in the cylinder; the water within it is rapidly converted into steam; it derives its combined caloric (1000°) from the metal of the cylinder aud piston; these are cooled down by the abstraction of as much caloric as entered into the composition of the steam thus evaporated. Again; the supply steam is admitted into the cooled cylinder, and is condensed until the apparatus is raised to its own temperature; and not till then does it begin to act. Hence arises a fresh deposit of water, which is again evaporated with a production of cold; and thus the process continues as long as the machine acts. And here it may be noted, that this process constantly takes place in double-acting engines, for tne vacuum process is constantly occurring either above or below the piston. On the other hand, in the bastard or Cornish engine, the vacuum takes place alternately, and only during one-half of the time the machine is in action. This may well account for the general economy of this machine. In addition to which, the adaptation of the stam-jacket —a fact now ascertained—will, as Mr. Frost observes, explain in part their vast superiority. The clothing of the boilers anc steam pipes, and of the cylinder, together with the management of the furnaces, may also be considered subsidiary to their effect. Having thus ascertained the cause of the great waste of steam, it now

became the question, How was it to be remedied? It was evident the plans hitherto pursued would not be practicable. It would be impossible to surround the cylinder with steam of the pressure of 500 lbs.; and I had ascertained that less would not effect the object even on so small a scale. Also, I had found that passing steam through metal pipes, exposed to the action of the fire, or of heated flues, was attended with practical difficulties which were insurmountable. It then occurred to me that, as it was only required to raise the temperature of the cylinder a trifle above the condensing point, this might be effected, provided the whole of the supply steam were raised to an equal temperature, and that all uncombined water were prevented entering with it. In order to effect this, it was necessary to have a very extended surface applied to the heating steam. I found afterwards that a fagot of tubes, being surrounded by the same steam that heated the jacket, answered the purpose. This fagot, being inclosed in a portion of the steam pipe, or in the heating boiler, I called a steamer.

The apparatus was applied to an engine belonging to Mr. John Penn. This engine was employed in turning one pair of millstones, and it was ascertained, by measuring the coals and wheat, that the consumption was 3.6 lbs. coals for each bushel of wheat ground.

This, considering the smallness of the engine, and its being low pressure, is less than in any engine yet known; for even Wolf's engines on a large scale, with high-pressure and expansion cylinders, consume from 3 lbs. to 6 lbs. for each bushel. I have since ascertained by calculation that this engine expended little above 8 per cent more than it should by measurement, while even the Cornish engine expends 33 per cent more than the proper quantity.

On experimenting, however, with this engine, I found I had not produced the maximum effect. In order to explain this clearly, I will state the mode by which this was ascertained. The index of the injection valve was set to a given point; the temperature of the injection was ascertained, also that of the hot-well; the difference of these in any one experiment compared with the difference between them in another, the quantity of the injection being constant, will give exactly the comparative quantities consumed in each case. By experimenting in this way, I found that on raising the pressure of the heating boiler from 30 lbs. to 60 lbs., and even to 120 lbs. on the square inch, the temperature of the hot-well still diminished. This put me to contrive again; for it was evident that such high pressures were inadmissible, and yet I was desirous of producing, if possible, the maximum effect. A plan then occurred of a priming or seperating-box of a very simple construction, which, by giving a circular motion to the supply of steam before entering the siccator, would, by the centrifugal force acquired by the free water which always rises from the boiler, be separated and fall to the bottom of the apparatus. This priming-box was consequently applied, when I was gratified by observing its effect; for on raising

the temperature of the heating boiler from 29 lbs. to 90 lbs., no diminution of temperature took place in the hot-well. This was a full proof that the maximum power of the steam was produced. The pressure of the heating steam was afterwards diminished to 15 lbs. on the square inch, on which an increase of temperature took place in the hot-well of 5 per cent. The pressure in the supply boiler was 6 lbs., so that a difference of about 9 lbs., or about 18°, is sufficient to enable steam to produce nearly its full dynamic effect. This difference would suffice, but by increasing the surface of the tubes in the siccator, the maximum effect may be easily produced at a less temperature.

About this time the matter came under the notice of the Admiralty, and the Lords were pleased to grant a sum for experimenting on this engine. The experiments were conducted on the same plan as before, except that a dynamometer was applied, which was loaded to indicate about 18 horses power; which same power was also shown by the indicator. The experiments were under the inspection of the Comptroller and Inspector of Steam Machinery, and performed by Mr. Wright, one of the engineers of the Admiralty. The experiments were comparative, and showed the expenditure of steam under equal loads; first of the engine without steam in the jacket, then with ordinary steam in the jacket, and lastly, with the siccator, &c., as above described, added to the engine. The temperature given to the injection water being ascertained, and the power being inversely as these quantities, it appears that the apparatus produces a saving of 25 per cent. compared with the engine without steam in the jacket.

These quantities, however, must not be considered as indicating the whole of the saving which would be produced by the application of anhydrous steam to engines in general; for this reason, that the engine on which the experiments were performed was so arranged as to produce the best possible effect without its use; for in addition to the engine being made by a first-rate engineer, there was abundant steam room in the boiler, the steam pipe was large and inclined downwards to the boiler, besides which the steam was applied to the jacket, not as is usually done, but in the same way as in the Cornish engines, or rather in a somewhat superior manner, as the cylinder cover was covered with steam, and every pains taken to insure the perfect action of the old method. On the other hand, in locomotive, or even in marine engines, where there is a confined steam space,—and especially in locomotives, in which an enormous power is forced from small boilers,—there must be a very serious loss by the use of steam hydrated in a very high degree. The value of anhydrous steam in these cases can hardly be sufficiently appreciated.

The makers of locomotives appear to be aware of this in some degree, as in the newest engines the steam room is increased by means of large steam chests, &c., as much as the confined space

will admit; but after all is done, the almost ruinous expense of repairing these machines, attests the evil effects arising from the present system. Capital would be well engaged in carrying out this plan with respect to locomotives and marine engines.

In consequence of these experiments, which were repeated in a variety of ways, a recommendation was made to apply the apparatus at the Government expense. This was about being done when its progress was arrested, in consequence of new regulations respecting experimental matters.

Another remarkable fact was observed in these experiments; namely, that with the apparatus, that is, with the use of anhydrous steam, the engine would carry above one-fourth more load, or in carrying the same load, an expansion being put into action, there appeared a saving of 59 per cent. compared with the engine working in the ordinary way.

That steam should undergo no expansion by an increase of its temperature appears somewhat anomalous; yet this may be considered as one of the interposited laws of nature, somewhat analogous to the increase of volume in water by the abstraction of caloric between the temperature of 40° and 32°. If it were not for this law, lakes and rivers would be frozen from the bottom, and a constant winter would reign even in the temperate regions: an equally good reason, or final cause, may be given why the vapor of water should not expand by an increase of temperature; namely, that earthquakes and other convulsions of nature, being probably caused by sudden evolutions of aqueous vapor occasioned by subterraneous fires; had the usual law of expansion by heat held place, and, much more, had the aqueous vapor been converted into "stame," the very earth would be shattered to pieces, no rocks nor hills could withstand its force, and the world would become one mighty ruin.

There is one more interposited law of nature, which is, perhaps, as important as the two I have mentioned. In some experiments which the Royal Society of Edinburgh did me the honor of publishing, it has been shown that the air of expiration in animals contains very much less combined caloric than the air of inspiration, chiefly in consequence of the vapor of water combined with it. From this it appears that the process of evaporation which continually takes place in the lungs, instead of having a cooling effect, as in every other case, becomes actually a heating process. It appears, therefore, that had this interposited law not had existence, animal heat could not be sustained; and should this law be suspended for one hour, the consumption of carbon in the system being insufficient to maintain the animal heat, the whole animal race would sink into torpidity and death. That evaporation of water should, under any circumstances, occasion an evolution of caloric, is almost incredible, but not more so than the two interposited laws I have just mentioned.

Mr. Frost and myself, though we vary somewhat, agree in the more essential points. There is even a striking accordance between us. He finds by experiment that an addition of 4° doubles the volume, and I have shown that in an 18 horses power engine, the power is nearly doubled,—that is, 46 per cent. is added by a temperature which certainly did not exceed 4° in the cylinder. He also states, that by an addition of 440 lbs. the volume of steam heated out of contact with water is increased nearly tenfold; and I have shown that in a small engine, by the application of steam of 500 lbs., the effect of the steam was increased more than tenfold. The advantage of heating tha steam is nearly the same on both hypotheses. We differ chiefly in theory. Mr. Frost supposes that steam being subjected to a higher temperature, is converted into "stame" while I believe that "stame" is nothing else but pure anhydrous steam. In practice we also agree, excepting that he proposes the very same means which I used many years ago, and which were abandoned, not because they were inefficient, but because they have been superseded by more useful and practical methods.

As to the amount of advantage to be derived from the use of anhydrous steam, it will vary in each case. It would be imprudent to expect too great things, but I have shown that in a very small engine the saving was 90 per cent.; and that in an 18-horses power with abundant steam room, it would amount to 46 per cent. It is also probable that in the same kind of engine the saving will be inversely the size of the engine, in some proportion or other. Thus the diameter of the small engine compared with the other was 1 : 6, and the saving was 90 : 46—then if we suppose a 12-feet cylinder which would be six times the diameter of the 18-horses power, the saving might be lessened in the same proportion, the 90 : 46 :: 46 : $23\frac{1}{9}$ per cent. In actual practice the saving will be very much greater, for the reasons I have before stated. I have shown in the Appendix that the proper quantity of good coal for condensing low-pressure engines is 3·29 lbs., per horses power per hour, while in practice the consumption is not less than 6 lbs. and up to 18 lbs. I have shown also that the Cornish engine, with all its vaunted powers, instead of consuming 1·47 lbs. per horses power, consumes 2·21 lbs.,—being a loss of 33 per cent; while, on the other hand, I have shown that a low-pressure engine, driving only one pair of millstones, and with the siccator, &c., consumes 3.6 lbs.' while by measurement it should consume 3.29 lbs.,—being a loss of 8.7 per cent. only. Compare this with other engines of this class, which consume from 46 to 80 per cent. more than the proper quantity.

An anhydrous cylinder is also especially favorable for working the steam expansively. The cylinder when sustained above the condensing point allows of the full effect of the expansion according to the theory of the hyperbolic curve.

I will make a few remarks on the use of the priming-box, which so materially assists in drying the steam. I have even found it very useful when used by itself. It is applied to one of the river steamers, and by repeated experiments I have found that it effected a saving of 7 per cent. The engineer told me that with this apparatus he could drive the engines for a whole week, without blowing out the boiler, and without priming the engine, while without it it was necessary to blow out twice or thrice weekly. This little apparatus, which can be applied to any engine at a small expense, deserves the especial notice of engineers. It would soon save itself by the protection it would give the cylinder, piston, and slides from dirt and scales from the boiler.

PREVENTION OF BOILER EXPLOSIONS.

We now come to the very important subject of boiler explosions. Mr. Frost has so ably explained the most frequent causes of them, that little more need be said on the subject. The fact is, that they take place not when the steam is at its full tension, as when, for example, the engine stops for a time; but after the engines have started again, and made some revolutions, and the tension of the steam is suddenly reduced. The cases of explosion usually happen when the water supply has been neglected, and a portion of the boiler not covered by the water becomes red-hot. The explanation may be as follows: the engine having stopped some time, has become cold, then, agreeable to the principle above stated, the steam on entering the cold cylinder is rapidly condensed during the several revolutions; a large quantity of steam is rapidly drawn from the boiler, the water therein being of a high temperature, and being also suddenly relieved from a considerable portion of the steam pressure, boils rapidly, throwing up priming water, which coming into contact with the red-hot plates of the boiler, a sudden evolution of steam takes place, in such quantity as to act like detonated gunpowder; so that no boiler, however strong, can resist its violence. Those who are conversant with the river steamers will have observed that, after each stopping, the engines, especially if the boilers are very foul, prime very much; that is, the noise of the ebulition water rushing into the cylinders can be distinctly heard. Now, in such a case, if the water in the boiler happens to be extremely low, there would be the utmost danger of an explosion.

Besides the obvious propriety of keeping the boilers clean and well supplied with water, it will appear quite clear that even should these precautions be omitted from carelessness, the use of anhydrous steam would inevitably secure us from such disasters, for the following reasons; and it is a fortunate circumstance that what was designed merely to save expense should also be the most efficient means of securing our safety.

Should the engines stop for any time, the cylinders being constantly maintained above the condensing point of the steam, the engine on starting would require no more steam than usual; there could be no sudden abstraction of steam from the boiler, and, in short, the whole train of causation, before described, being prevented, no explosion could ever occur. Even a common steam jacket would in some measure diminish the danger. I have never myself heard of any boiler of a steam engine having a jacket, exploding from this cause. This subject really deserves the attention of the engineers, as we have it in our power to prevent the greater number by far of these serious accidents.

Jackets have been discarded from most engines, because they have been found to produce but little saving of steam in those engines in which there is but little steam space; so that with the exception of the Cornish engine, steam engines have retrograded, as Mr. Frost says, since the time of Watt.

As a measure of safety in boilers, the use of the priming-box promises great security, because most explosions arise from priming. All boiler explosions, in fact, arising from priming, excepting those few which are occasioned by an undue proportion between the tension of the steam and the strength of the boiler, that is, by the boiler being worn out by too long use or from improper construction. This cannot happen but from the most culpable negligence. I have shown above, that by this means, a river steamer could be worked seven days instead of two, without blowing the boiler. The cause of this is, that the apparatus receives the priming on starting the engine after stopping, thus preventing it from entering into the engines. This prevents in a great degree the cooling of the cylinders, and the consequent great demand for steam, by which the boiler being partly exhausted, the priming rises in great quantities and produces the effects that have been described. This simple apparatus may be applied at a small cost, to any steam engine: it occupies a small space, and has, besides the security it affords, the advantage of saving from 7 to 10 per cent. in the fuel. This subject deserves investigation, and should these premises be correct, no engine, and especially no river steamer, where the water is constantly foul, should be unprovided with this apparatus.

The burning of locomotives, which so frequently happens, and which is attended with such enormous expense and inconvenience, arises also from priming. It is reported in the *Observer*, that six engines belonging to the Eastern Counties Railway were burnt between the 18th and the 21st of August last. The immediate cause of this mischief is a deficiency of water. But this deficiency of water is occasioned by the great quantity of priming which takes place in the engines whenever the boilers become foul. This is far more probable than that the engine-drivers neglected to provide the usual quantity of water; and it is highly probable that in these

cases the boilers had been tampered with. An efficient priming-box would have prevented these accidents.

It would certainly be desirable to construct steam engines in such a way that safety depends as little as possible on the carefulness or negligence of engine drivers and firemen. This security, I believe, is effected by the anhydrous system.

As a summary of what I have stated, it has been shown that "stame" is nothing else than pure or anhydrous steam; that steam engines consume by measurement from one third too much, as in the case of the Cornish engines, to near six times the proper quantity of coals; that this loss is occasioned by the use of hydrated steam, and by the coldness which it occasions in the cylinder; that this coldness is caused by a constant evaporation which takes place within; and also that this evaporation is prevented by a steam jacket containing steam, which shall sustain the temperature of the cylinder slightly above the condensing point, together with the use of anhydrous steam, and this may be accomplished with a great saving of fuel.

That boiler explosions arise chiefly from priming, which takes place in consequence of the cylinder becoming cold after stopping —together with a deficiency of water in the boiler, which thereby becomes red-hot; that this priming still farther cools down the cylinder, causing a still greater exhaustion of steam, and consequently a more violent ebullition, which, acting on the red-hot boiler plates, causes such a sudden and copious production of steam, that the explosion takes place; that a heated cylinder, together with a priming-box, &c., would afford perfect security against these accidents, even should the boiler become foul or deficient in water. That an efficient priming-box alone would offer a good security against boiler explosions; and, lastly, that the burning of locomotive engines arises from the same cause, and would be prevented by the same means. There are many points concerning priming, which had I space might be pointed out; such as the priming of sea-going steamers on entering fresh water, which arises from the high temperature the water acquires in consequence of its impregnation with salt. This high temperature converts the fresh water supplied into the boiler into steam too suddenly, which is also not unattended with danger.

I will just mention one fact which, although apparently insignificant, shows in a striking manner the effect that an admission of a very small quantity of water has in cooling down the cylinder. While experimenting on the engine referred to, I blew the slide case, and then remarked the effect produced on the hot-well. The difference of temperature previously was 20°, but after blowing the slide case the temperature fell 3°, showing a saving of 15 per cent. It was, to be sure, a long T slide, which would increase the quantity of the water of condensation. This shows that apparantly trivial circumstances deserve attention. I am aware of the natural

aversion which engineers have, in common with others, to new plans designed for the improvement of their own art; yet I trust some will be found who will investigate these matters, and regard their noble profession not so exclusively as men of business as to prevent them from promoting whatever may contribute to the purposes of general utility. * * * * * * *

APENDIX.

A list of different steam engines that have come under my observation, with the quantity of coals consumed per horse power per hour.

	lbs.
Cornish engine at Deptford, (see below,)	2·21
Wolf's engines at Greenwich, (ditto)	3·
High and low pressure engines at Greenwich 40-horses power	6·
Average of five pair marine engines (Tredgold) nominal	10·3
Cornmill at Deptford, 12-horses power, low pressure	14·0
Messrs. Johnson & Berry's engine at Birmingham, 8-horses power nominal	16·
Mr. Smith's engines, almost new, at Bermondsey, 5-horses power nominal	18·88

Calculation to show the quantity of Coals which should be consumed by Steam Engines per Horse Power per Hour.

Note.—The capacities of steam, of all densities, is supposed to be constant, that is, as the density. Also that a horse power is equal to 33,000 lbs. raised one foot in the minute.

One cubic inch of water=1 cubic foot of steam (Watt), of the elasticity of 15 lbs. on the square inch=144—15 lbs.=2160 lbs., which would be lifted during its formation one foot high: and if this be done in one minute of time, 2160 : 33,000 : : 1 : 15·27 cubic inches of water required in one minute, or 916·2 cubic inches required in one hour=(1 cubic foot=62·5 lbs.) 33 lbs., to which add one-fifth for friction and loss, or 6·6 lbs., total water 39·6 lbs.; and if we allow 1 lb. of coals to evaporate 8.4 water (Tredgold) the consumption of coals will be

$$\frac{39.6}{8{\cdot}4}$$

or 4·71 lbs. per horse power per hour.

But if the steam work expansively, this quantity is divided by the number according to Watt's Table, which corresponds to the degree of expansion. Thus, in Cornish engines, the steam is stopped at one-eighth, and by the Table the performance is multiplied by

3.2; therefore the consumption of coals for these engines should be

$$\frac{4{\cdot}71}{3{\cdot}2} = 1{\cdot}47 \text{ lbs.}$$

per horse power per hour.

Again; in Wolf's engine, in which the expansion cylinder is four times the size of the other, and therefore, *pro tanto*, the steam is stopped ot one-fifth. This, by the Table, multiplies the performance by 2·6; therefore, take the above constant quantity 4·71 as before, and

$$\frac{4{\cdot}71}{2{\cdot}6} = 1{\cdot}81 \text{ lbs.},$$

the quantity which should be consumed by these engines; but they consume 3 lbs. per horse power per hour, and some of them twice as much.

Also in low-pressure engines, which use a slide valve. The slide stops the steam at two-thirds, which multiplies the performance by 1·43; then

$$\frac{4{\cdot}71}{1{\cdot}43} = 3{\cdot}29 \text{ lbs.},$$

which is the proper consumption for these engines; but they actually consume from 6 lbs. to nearly 19 lbs.

Calculation to show the consumption of coals in the Cornish engine at Deptford, with the steam stopping at one-eighth and using the best coals.

Engine lifts 84,000,000 lbs. of water one foot high by the consumption of 94 lbs. of coals. If we suppose this to be done in one minute of time, the number of the horses power would be

$$\frac{84{,}000{,}000}{33{,}000} = 2545;$$

and if in one hour,

$$\frac{2545}{60} = 42.45, \text{ and } \frac{94 \text{ lbs.}}{42{\cdot}45} = 2{\cdot}21 \text{ lbs.},$$

or consumption of coals per horse power per hour; but the proper quantity, as we have stated above, is 1·47 lbs.: being a loss of exactly one-third.

The only engine in which the siccator, &c., have been applied in an imperfect manner, and acting under disadvantageous circumstances, consumes 3.6 lbs., the proper quantity being, as above, 3·29 lbs., which is a loss of only 8.7 per cent. This is the nearest approximation of any engine in existence to the true theory, and far surpassing the Cornish engines in effect, especially con-

sidering the vast difference in their size, pressure of steam, and the rate of expansion.

To exceed the theory seems not to be very probable, unless it should turn out—and the possibility of which I admit—that Mr. Frost's notions concerning the expansion of steam are correct. But without this, the room for improvement is very great, so much so that it may be considered that the steam engine is still in its infancy. It requires only the due application of capital to produce effects as yet unthought of.

W. T. Haycraft, M. D., &c.

COMMERCE OF ST. LOUIS.

Table showing the quantity of wheat received at St. Louis from the Missouri, Mississippi and Illinois Rivers respectively, each month, during the year 1850, taken from the clerk's books of the Millers' Exchange.—[Copied from the *Mo. Republican.*]

	Missouri River. Sacks & bbls.	Mississippi River. Sacks & bbls.	Ill. River. Sacks & bbls.
January	1,862	2,591	6,731
February	1,465	4,723	7,501
March	11,871	15,473	35,515
April	25,171	48,993	40,372
May	10,811	17,820	28,251
June	13,254	13,109	21,547
July	9,555	7,379	14,280
August	14,558	15,860	48,370
September	10,948	41,585	67,428
October	4,639	80,830	86,704
November	3,851	61,750	142,538
December	3,247	7,367	39,401
Total sacks and bbls.	111,228	277,480	538,638

COMMERCE OF ST. LOUIS.

From the Missouri Republican.

STATEMENT,

Showing the monthly arrivals of Steamboats, (exclusive of Barges, &c.) at the port of St. Louis, from New Orleans, Ohio River, Illinois River, Upper Mississippi, Missouri River, and other points, during the years 1847—'48—'49 and '50.

Month.	New Orleans.				Ohio River.				Illinois River.				Upper Mississip.				Missouri River.				Cairo.				Other points.			
	'47.	'48.	'49.	'50.	'47.	'48.	'49.	'50.	'47.	'48.	'49.	'50.	'47.	'48.	'49.	'50.	'47.	'48.	'49.	'50.	'47.	'48.	'49.	'50.	'47.	'48.	'49.	'50.
Jan.	22	29	13	18	8	11	5	12	9	26	14	12	4	24	2	—	—	1	—	1	11	13	7	13	5	16	12	6
Feb.	15	26	32	35	16	12	18	26	8	33	19	55	8	20	4	13	1	1	3	7	10	9	5	9	6	13	17	9
March.	48	53	38	45	28	38	58	64	85	72	82	91	41	48	79	80	14	19	44	35	3	16	10	12	13	29	27	10
April	77	47	36	27	41	43	65	61	91	67	63	70	74	76	117	60	32	33	63	58	1	18	9	12	12	14	21	18
May	93	22	22	20	61	37	38	47	106	82	42	69	128	67	73	76	63	38	50	57	19	7	14	6	20	36	18	21
June	49	30	19	24	37	44	38	52	60	53	56	83	91	75	77	78	48	39	43	42	8	13	11	8	13	16	22	17
July	67	30	21	12	41	48	13	32	58	55	33	56	81	51	53	49	45	34	19	32	19	5	6	3	19	28	10	12
Aug.	24	26	17	23	37	55	16	28	41	71	62	75	51	75	67	48	32	40	28	45	10	16	8	3	24	27	14	33
Sept.	28	48	31	15	30	42	33	36	45	64	87	63	57	66	77	63	23	39	41	45	18	21	11	0	28	64	19	33
Oct.	22	51	26	20	67	43	40	40	57	70	70	63	80	82	87	59	31	36	34	26	18	32	12	4	34	72	18	26
Nov.	32	49	27	36	42	48	43	65	60	63	93	98	69	66	109	81	16	42	21	32	13	16	14	1	18	38	15	18
Dec.	23	35	31	28	22	8	39	30	38	34	65	53	33	47	61	28	9	5	9	10	16	28	15	4	12	43	24	12
Total	502	426	313	303	430	429	401	493	658	690	686	788	717	697	806	635	314	327	353	390	146	194	122	75	202	396	217	215

STATEMENT,

Showing the monthly arrivals of Steamboats and Barges, Flat and Keel Boats, tonnage of Steamboats and Barges, wharfage, &c., for the years 1849—'50.

	Arrivals of steamboats and barges.		Arrivals of flat & keel boats.		Tonnage of steamboats and barges.		Wharfage.		Harbor Master's fees.		Paid into the City Treasury.	
	'49.	'50.	'49.	'50.	'49.	'50.	'49.	'50.	'49.	'50.	'49.	'50.
January ...	52	64	—	3	11,954	14,129	$597 70	$683 80	$47 81	$54 70	$530 54	$629 10
February...	98	173	—	9	23,615	37,241	1,180 75	1,825 50	106 46	146 04	1,226 44	1,679 46
March.....	358	400	26	29	75,835	81,969	3,849 75	4,091 90	307 98	327 35	3,604 37	3,764 55
April.....	388	349	27	15	85,123	79,505	4,384 65	3,865 75	350 77	309 26	4,004 23	3,554 49
May.....	262	312	8	16	62,756	71,825	3,303 30	3,566 15	264 26	285 20	2,940 12	3,280 86
June.....	264	334	11	20	58,125	72,984	2,924 25	4,048 92	231 56	232 01	2,663 04	3,839 71
July.....	157	218	7	3	38,358	43,196	1,935 50	3,137 10	154 84	188 22	1,780 66	2,948 88
August.....	213	276	12	0	43,323	51,789	2,182 15	3,518 87	172 75	211 13	1,986 70	3,307 74
September.	312	259	7	3	60,865	54,610	3,052 75	3,870 48	240 48	232 23	2,766 77	3,638 25
October....	287	274	3	1	57,120	58,268	2,859 50	4,167 15	228 76	250 03	2,630 74	3,917 12
November..	336	412	46	13	61,784	82,980	3,187 70	5,718 46	254 17	343 11	2,922 98	5,375 35
December..	248	168	19	3	55,034	34,756	2,788 20	2,601 00	215 68	156 06	2,474 92	2,444 94
Total 1849	2975		166		633,892		$32,246 29		$2,575 62		$29,531 51	
Total 1850		3239		115		681,252		$41,095 08		$2,735 43		$38,382 44

From the list of steamboats published in the Mo. Republican it appears that 245 different steamboats arrived in the port of St. Louis during the year 1850. The aggregate tonnage of these amounted to 59,311; averaging a fraction over 242 tons each. Only 12 of the whole number exceeded 500 tons burthen.

The following are the largest on the list: St. Louis, 938 tons; Sultana, 924 do.; Missouri, 886 do.; Autocrat, 847 do.; Uncle Sam, 741 do.; Alex. Scott, 710 do.; Grand Turk, 689 do.; and Atlantic 667 tons.

LUMBER TRADE OF ST. LOUIS.

From the Mo. Republican.

From the report of the Lumber Master to the City Register, it appears that the following amounts of lumber, shingles, laths and staves, were received at the wharf during the year 1850:

Month.	Lumber.	Shingles.	Laths.	Staves.
January.....	———	———	———	———
February.....	128,980	———	———	1,500
March.....	354,888	———	———	———
April.....	1,138,498	100,000	———	56,800
May.....	691,209	———	———	———
June.....	1,079,100	650,000	170,000	21,321
July.....	1,142,090	265,000	———	120,195
August.....	1,154,100	1,555,000	———	176,971
September.....	1,448,100	724.000	———	116,000
October.....	586,200	500,000	———	132,246
November.....	548,900	432,000	113,000	154,000
December.....	325,829	90,000	———	28,000
Total.....	8,597,894	4,316,000	283,000	807,033

Adding to the above table 6,078,205 feet of lumber, estimated by the Lumber Master not measured, and 15,600,000 feet estimated to have been cut by the city mills during the year 1850, and we have, as the total amount of lumber received from all sources during the past year, and manufactured in St. Louis, the quantity of 29,676,,099 feet.

We annex to the above statement a comparative view of the imports of lumber, shingles, and laths, by the river, for the past six years, ending December 31st. 1850:

Year.	Lumber.	Shingles.	Laths.
1845.	10,389,382 feet.	13,927,500	2,328,700
1846.	13,169,332 "	10,652,000	1,807,700
1847.	16,917,850 "	13,098,800	2,817,000
1848.	22,137,209 "	15,851,500	2,598,915
1849.	24,188,651 "	7,334,500	1,290,500
1850.	14,676,099 "	4,316,000	283,000

MANUFACTURES AND PRODUCTIVE INDUSTRY OF ST. LOUIS.

The following table showing the extent of the productive industry of the city of St. Louis purports to have been made up from the Census returns of 1850. We found the table published in the Missouri Republican of the 11th ultimo, and being satisfied that it was imperfect we intended to examine the Marshal's returns for the purpose of ascertaining whether the errors were made by the Deputy Marshal, or whether many facts had escaped the search of the individual who compiled the table. But on inquiring at the office of the clerk of the county court, where the documents are filed, we were informed that it would require perhaps two weeks labor to give them a thorough investigation; this was more time than we could devote to the subject, and, consequently, we concluded to copy the table as published by the Republican.

When we can find sufficient time we shall recur to this subject and shall publish such corrections as we may be able to make.

In regard to the following table we will merely remark, at present, that we know that many of our most important manufacturing establishments have been omitted; and we believe that in several branches of industry the number of operatives is much below the truth.

Name of Business.	Capital invested.	Hands employed. Male.	Hands employed. Female.	Annual product.
104 Carpenters	$150,265	557		$1,171,580
9 Stone Cutters	28,100	90		122,700
7 Shirt Manufacturers	43,000		268	43,000
106 Tailors	205,500	680	181	650,550
14 Hatters	26,700	71	16	85,150
8 Carriage Makers	56,600	138		130,000
9 Iron Foundries*	389,000	545		569,000
2 Brass Foundries	17,000	22		25,000
71 Blacksmiths	72,430	326		303,130
16 Breweries†	195,550	81		285,925
50 Cabinet Makers	72,760	195		182,800
35 Tinners & Coppersmiths	129,300	151		287,328
1 Type Foundry	51,800	10	10	150,000
10 Chandlers and lard oil Factories	99,300	126	100	498,950
3 Tent & Awning M'frs.	1,709	10		6,300
7 Rope makers‡	70,230	97		215,000
50 Bakers§	62,250	122	22	276,640
110 Boot and Shoe makers	73,975	272		402,900
5 Gunsmiths	4,800	14		10,360
1 Fire Safe manufactory	700	7		7,000
28 Painters and Glaziers	67,130	170		217,000

Name of Business.	Capital invested.	Hands employed. Male.	Female.	Annual product.
7 Bookbinders	$7,300	27		$55,300
3 Plane makers	5,300	15		48,000
3 Trunk makers	7,700	36		74,500
7 Locksmiths	3,710	13		12,638
1 Chair manufactory	1,500	5		3,500
6 Plumbers	12,500	30		65,000
5 Tobacco manufactories	23,000	66		67,000
3 Spirit Gas Distilleries	20,500	7		63,000
2 Drug & chemical fact'rs	21,000	16		45,000
1 Hominy Mill	600	2		3,600
1 Shot Factory	40,000	25		375,000
1 Bucket Factory	4,000	10		6,000
9 Tanneries	70,200	78	4	223,900
9 Sawmills‖	115,000	103		248,000
22 Milk Dairies	12,830	25		53,640
10 Upholsterers	49,966	46	112	122,800
24 Sadlers	33,916	178	6	260,850
6 Turners	2,330	8		12,800
2 Venitian Blind makers	4,000	5	3	6,500
5 Wire workers	16,800	15		26,000
1 Gold Pen maker	1,000	1		2,000
19 Flour Mills**	439,500	181		2,367,750
2 Planing Mills	17,000	35		96,000
3 Patent Medicin manuf.,	14,000	8		96,000
53 Coopers	32,485	248		288,822
2 Glass Factories	50,000	70		64,000
3 Sugar Refineries††	177,000	211		1,213,600
2 White Lead, Castor & Linseed Oil Factories,	146,000	160		600,000
4 Soda water manufact's	16,000	91		60,500
10 Confectioners	6,700	28		57,500
1 Whip maker	600	7		4,800
4 Lime Kilns	2,330	14		21,200
1 Cork manufactory	2,500	8		8,700
38 Cigar makers	20,180	92		80,276
2 Rectifiers	4,000	6		28,000
5 Machinists	30,100	100		98,000
3 Starch Factories	25,000	17		165,000
44 Brick Yards‡‡	89,000	619		301,470
6 Sausage makers	505	6		9,600
1 Cotton Yarn Factory	70,000	40	80	70,000
13 Bricklayers§§	16,500	104		104,750
2 Organ Builders	3,500	8		9,200
6 Cap Makers	6,150	11		11,900
2 Jewelers	2,100	4		5,000
3 Band Box Makers	426	7		3,700

Name of Business.	Capital invested.	Hands employed. Male.	Female.	Annual product.
3 Match Factories.....	$5,500	39		$16,800
49 Butchers.....	49,920	111		349,654
1 Gas Company.....	220,000	41		43,000
1 Cotton Batting factory	32,000	35		73,000
1 Fire and Water Proof Roof Manufactory.....	9,000	10		13,500
1 Spice Mill.....	14,000	12		50,000
1 Lead pipe & Sheet lead Factory.....	35,000	11		75,000
2 Brush Makers.....	2,500	20		14,500
2 Mustard Factories.....	1,900	3		2,100
1 Basket Maker.....	400	2		2,160
1 Umbrella Maker.....	4,000	3	2	7,500
7 Milliners.....	4,300	1	48	29,500
2 Oil cloth manufactories	3,000	30		30,000
2 Saw Factories.....	16,500	16		34,000
3 Vinegar Factories.....	1,450	7		12,500
2 Bellows Makers.....	1,500	3		32,000
8 Pork Houses‖‖.....	239,800	213		799,522
1 Woolen Factory¶.....	50,000	15	10	45,000
32 Wagon Makers.....	7,275	101		146,585
1 Boat (Yawl) Builder..	150	1		750
2 Distillers.....	39,000	37		81,000
4 Piano Makers.....	5,500	4		8,000
1 Comb Maker.....	600	1		1,000
2 Nailors.....	300	3		2,000
1 Mill Stone manufactory	10,000	10		10,000
6 Daguerreans.....	8,000	8		18,000
2 Mathemat. Inst. Mak.	2,000	2		7,600
2 Edge Tool Makers.....	3,500	15		8,500
1 Block & Pump Maker,	8,000	17		9,000
2 Saddletree Makers.....	3,500	34		15,000
1 Ship (steamboat) Yard	125,000	85		150,000
Total.....	$4,377,711	7.321	862	$15,400,340

*6,900 tons of Iron.
†151,120 bushels of Barley.
‡830 tons of Hemp.
§33,673 barrels of Flour.
‖14,200,000 feet of Lumber.
**2,375,000 bushels of Wheat—569,300 barrels of Flour.
††1,135 tons of Sugar.
‡‡78,220,000 of Brick.
§§First Ward only.
‖‖107,800 Hogs.
¶80,000 pounds of Wool.

MORTALITY OF ST. LOUIS.

We published in the December number, 1849, a table of mortality in St. Louis, embracing the period from 1st January to 1st of October. That table was made up by ourselves from the Register's Books, but several typographical errors having occurred in the printing, we have concluded to publish it with the proper corrections in connection with the tables of mortality from October 1849 to 31st December, 1850. The continuation is taken from the Mo. Republican and may be regarded as correct; that paper having obtained the facts, as we understand, from the Register's Books.

For week ending,		Deaths in 1849.		Deaths in 1850.	
		Total.	Cholera.	Total.	Cholera.
January	8,	87	8	72	7
"	15,	68	3	44	0
"	22,	77	17	57	2
"	29,	49	5	53	1
February	5,	37	4	45	3
"	12,	65	11	37	1
"	19,	70	4	35	0
"	26,	69	0	45	1
March	5,	59	3	39	1
"	13,	64	7	36	0
"	20,	92	26	44	0
"	26,	79	25	49	0
April	2,	65	17	51	2
"	9,	74	16	55	2
"	16,	80	24	56	2
"	23,	106	27	53	2
"	30,	131	41	44	0
May,	7,	135	78	72	22
"	14,	273	185	111	33
"	21,	192	127	65	9
"	28,	186	115	57	7
June	4,	144	75	73	24
"	11,	283	191	77	13
"	18,	510	404	100	40
"	25,	763	589	144	44
July	2,	903	619	196	67
"	9,	773	591	244	83
"	16,	867	639	212	77
"	23,	442	269	391	210
"	30,	225	93	217	69
August	6,	152	35	169	25
"	13,	117	12	227	20

MORTALITY OF ST. LOUIS.—*Continued.*

For week ending,	Deaths in 1849.		Deaths in 1850.	
	Total.	Cholera.	Total.	Cholera.
August 20,.....	94	4	167	15
" 27,.....	73	3	129	7
September 3,.....	71	4	74	2
" 10,.	66	3	84	4
" 17,.....	88	1	71	8
" 24,.....	80	5	66	2
October 1,.....	77	0	62	2
" 8,.....	69	0	59	0
" 15,.....	63	2	64	3
" 22,.....	44	0	39	8
" 29,.....	57	0	51	7
November 5,.....	53	1	49	6
" 12,.....	44	0	72	17
" 19,.....	53	0	75	11
" 26,.....	39	1	146	5
December 3,.....	47	2	38	3
" 10,.....	42	1	41	2
" 17,.....	46	2	46	2
" 24,.....	31	0	46	1
" 31,.....	36	0	47	0
Total.....	8,445	4,285	4,595	872

Since writing the leading article of this number we have met with the following observations on the culture of flax for seed, published in the Louisville Journal. The article is credited to the "Ohio Cultivator," and appears to be from the pen of a practical and experienced farmer.—We trust that the facts which it contains will encourage our agricultural readers to embark in the business of flax growing to an extent, sufficient, at least, to prove its profitableness.

ON THE CULTIVATION AND MANAGEMENT OF THE FLAX CROP, FOR SEED AND FIBER.

The extraordinary demand that has arisen for the article of flaxseed, during the past two seasons, through the multiplicity of our oil mills and the scarcity of seed in our principal markets, have influenced many farmers to think favorably of this crop who are

practically unacquainted with its most successful methods of management. Hence any information on this department of farming, that would be considered by practical men of a reliable character, must at this time be desirable. Having had much experience in the management of flax, and having cultivated some seasons as high as fifty acres and worked the whole of the fiber into a marketable article of flax and afterward into small cordage and twines, practical farmers who may have a desire of embarking in this business either for the seed alone or for the seed and fiber may put any suggestions we make to a practical test, without any apprehension of the result proving disastrous. The only motive which prompted us to prepare our thoughts and experience on this subject for the press is to enlighten public opinion on a subject that has hitherto been much neglected by those who have contributed to the agricultural literature of Ohio.

Flax requires a rich, deep, and friable soil; and one which rests on a subsoil composed mainly of a permeable clay loam is preferable to that which is more porous in its character. This applies with greater force in the latitude of Ohio then further north, for the obvious reason that the drought affects the flax crop in the lines of latitude lying between 39 and 42 degrees, to a much greater extent than between 44 and 46 degrees. The great difficulty that the flax grower will have to contend with in Ohio is the damage that the flax will be apt to sustain in average seasons by drought. By carefully observing the few hints that may be gleaned from the following remarks, the evil may in a great measure be obviated:

The great starting point is to have the natural quality of the soil in every respect right for the crop. A rich and strong loam abounding in vegetable mold and resting on a tolerably retentive clay subsoil is above all others the best suited for the production of a large average yield of seed and a uniformly strong and valuable yield of fiber. This kind of soil comprises perhaps one-fourth of the arable land of Ohio, and in the central, northern, and western portions of the State especially the suitable quality of land for this crop abundantly abounds. Indeed, almost any soil that will produce a large return of cultivated grasses, without much extra cultivation, by being brought into a perfect state of tilth, is adapted to the profitable production of flax.

The course of cultivation most likely to afford an abundant yield of seed and fiber is to break up an old sod field, one in which the cultivated grasses preponderated would be preferable, and plant it with corn, and cultivate it thoroughly, so as to destroy all weeds, and the following year sow it with flax. Corn, when properly cultivated, is the best preparatory crop for the flax that can be cultivated, with the exception of potatoes.

The proper system of culture to practice in all cases where an abundant yield of seed is desired, is to plow the land for the flax crop in the autumn, to the depth of at least six inches, and if this

has been neglected it should be done during the winter months, so as to get the benefit of the ameliorating action and influence of frost and atmosphere, by which the entire surface soil will be changed in its mechanical combinations, so as to make the roots of the plants easily accessible to the full depth of the soil. The roots of the flax plants will extend into the soil, if in a suitable state of culture, to the depth of at least one-half the length of the stems or straws. By cultivation, and other influences being equal, the stems of flax would average at least three feet in hight and hence the importance of deep cultivation for this crop. This particular feature of the business can however be best ascertained by a practical series of experiments, and in no instance will the labor and money expended in this way be found unproductive in profits to this and succeeding crops.

Where autumn or winter plowing has been adopted, the only preparation required for the seed is to plow a very light furrow, then harrow once or twice with a small-tooth harrow to level the surface and bring the whole into a perfectly fine tilth. If the soil be clody after the spring plowing and harrowing, it should be either rolled before the seed is sown or else a thick brush harrow should be employed to pulverise the surface.

The period for sowing the seed is usually protracted some weeks beyond the one which would best secure a full average crop. As seasons very much differ, no precise period can with safety be given, but experience has proved in numerous instances that a safe and unerring rule in all cases will be found in sowing the flax crop just before the forest trees put forth their leaves and when the indigenous fruit trees of the country are showing the first evidences of blossoming. Every day that the sowing is protracted beyond this point will the crop be seriously affected, especially if the season be very dry.

The quantity of seed ordinarily sown in this country is from two to four pecks per acre. A more fatal mistake than this, however, could not be made. At least two bushels of seed should be sown per acre, and on many soils from nine to ten pecks would be preferable to a less quantity per acre.

We have frequently harvested thirty bushels of flax-seed and four hundred pounds of clean scutched flax from an acre of land prepared on the foregoing principles, and the quantity of seed sown was never less than at the rate of nine pecks per acre.

Without prolonging our remarks any further at this time, we would simply say that the subject will be continued until the ground has been fully occupied, including the preparation of the fiber for market.

W. G. Edmundson.

Columbus, Ohio.

NEW METHOD OF ASCENDING AND DESCENDING STEEP GRADES ON RAILROADS.

The following account of an experiment made by James S. French, near Richmond, Va., is published in the Railroad Journal of the 16th inst. We regard this improvement, should it enable locomotives with full trains to ascend grades of 200 feet to the mile, as amongst the most important that has been made since the introduction of steam as a motive power on rail-roads. It will not only lessen, in a good degree, the cost of making railways but will authorise their construction in many parts of the country where the cost of grading and tunnelling would render them unprofitable.

EDITORS W. J.

JAMES S. FRENCH'S EXPERIMENTAL RAILWAY.—Last winter the Legislature appropriated $10,000, to test the invention of Mr. French for ascending high grades on railroads. Mr. French has expended a large sum in arranging a locomotive and car for the purpose, and for laying down a railway on the opposite side of the river, a mile above Richmond. It starts from the Danville railroad, near the Spring Hill Factory, in a valley just above the "Haunted House," and runs up hills and over streams in a direction perpendicular to the river. The experiments with the railway were very interesting; though on account of some accident to the steam boxes of the locomotive, they were not as full as desirable.

For the ascending and descending of undulating surfaces, it seems clear to us that no better method can possibly be found, combining as it does many requisite qualifications, viz: despatch in the construction of roads, greater cheapness and certainty of travelling; as, by this method, the road is neither affected by frost, ice, or even grease itself, [for the latter has been tried.] On this railway the road as constructed by Mr. French is more than a third of a mile in length, on a grade of 200 feet to the mile. The ends of the sills are cut off square with the string pieces; the rail, six inches wide, and three-fourths of an inch thick, is placed upon the string pieces, and extends outwards two and a half inches, thus affording an under surface against which a pair of rollers [the simple principle of the whole invention] are pressed. These rollers or wheels are suspended from the engine, a little in advance of the driving wheels, and are pressed against the extended rail by a lever, by the regulation of which any amount of adhesion may be obtained. This mechanical adhesion has the advantage of being graduated to circumstances, for on running on a level but little adhesion is required, and on reaching any inclined surface it is put on in a quantity requisite for ascending, and no more.—Thus are avoided the effects of weight in a great measure; whereas, on the ordinary principle, much dead weight is put on, only to be made use of at certain points, and destroying the road on every passage

over it. The engine used for the experiment is only 3½ tons, and was built by Messrs. Hogg & Delamater of New York, under the superintendence of Capt. John Erickson, a gentleman well known for his great mechanical talents. Up this grade of 200 feet, this little engine drew a passenger car filled with about 100 passengers, at a velocity of perhaps ten miles an hour. On descending, both engine and car were perfectly under control, capable of being stopped at any moment in a space of ten feet, and this while descending by steam power and the force of gravity combined.—The experiments have clearly indicated the practical use to which this invention can be applied.

Among the two hundred persons present on Saturday, there seemed to be a general gratification with the experiment. One of the great objects to be gained by this invention is that the same power may be obtained by a lighter engine and cars, and consequently less wearing out and injury to the rails. We hear that the highest grade ever surmounted by locomotives is one hundred and eighty feet in a mile, in Pennsylvania. But there, it required a locomotive of 20 tons—while, with Mr. French's invention, a locomotive of only 3½ tons [the "Climber"] overcame a grade of two hundred feet in a mile. When the experiment shall have been fully tested, and a heavy weight shall have been drawn up and down, and great power shall have been obtained by lighter engines, it will be for the State to order the adaptation of the invention to some portions of the various roads now being built, to which it is applicable. We know not what may be the effect, in time, of the heavy friction of the two small rollers, revolving 1700 times, while the driving wheels revolve only 32 times.

We are not engineers enough to venture a prediction as to the permanent usefulness of the invention. As far as it went, it succeeded perfectly on Saturday, and we heard several mountaineers declare that if the invention could succeed in overcoming the grade of the present experiment, it would be sufficient for railroads through their mountain passes. In this age of invention, we would not be surprised to see this application so improved, that, in less than a year, it will be made use of in surmounting the Blue Ridge, superceding the very expensive and snail-like tunnels through the mountains.—*Richmond Inquirer.*

A NEW PILE DRIVER.

A very ingenious machine for driving piles has been exhibited to us within the last few days by Mr. Frederick Lear of this City, the inventor. The construction is simple and well adapted for making railroads, dikes, causeways, levees, wharfs, &c. It is not

attached to a boat or skow, as such machines usually are, requiring a certain depth of water for them to act in. Mr. Lear's machine moves upon a temporary railroad, which it constructs upon the piles as they are driven; the machine driving alternately on each side of the track, whilst a circular saw is made to act upon and cut off the tops of the piles at the proper level. Upon these piles are placed the ties or cross pieces and on them the temporary rails upon which the whole apparatus moves. These ties and rails are movable, so that as the machine advances, what has been passed over is taken up to be used again in front.

From this description it will be seen that the machine must be well adapted to making roads, levees &c., in those swampy, wet places, where the ordinary pile driver cannot work. We should presume therefore it will be very valuable in the improvement of swamp lands of this and other States, and not less useful in the construction of the railroads, that may have to pass through them. We recommend it to the attention of Engineers and Contractors.

OUR REPUBLIC.

BY MRS. MARY R. HALL.

Much less than a century ago, a band of wornout soldiers from the battle-field, laid down their weapons of warfare and divested themselves of the soiled and tattered garments of the camp. Theirs had been a fearful contest; a struggle for life; yea *more* than life,—for LIBERTY!

We need not here recount their sufferings,—we need not describe the scenes of blood and carnage through which they had passed, nor dwell upon the agonies they had endured, suffice it to say, that the battle had been fought, the victory won, while the oppressors fled, yielding up to their conquerors the liberty for which they had so gloriously struggled. The news spread like lightning speed from place to place; and then many a fond mother watched with anxious eye each form that appeared in the dim distance, that she might, perchance, catch the first glimpse of a returning son; but as days sped on, and yet he came not, hope beamed with a faint and still fainter light, till the heavenly visitant came no more to cheer her desolate heart: for the bones of her first-born lay bleaching upon the battle-field.

Then, too, might be seen the almost phrenzied wife, counting with nervous anxiety the passing days; hoping as each returned, that the setting sun would restore her best beloved to still the wild throbbings of her heart. Her little ones vainly lisped the oft re-

peated name; for the dear one came not: on yonder plain his blood has been spilt,—he had fought and died in his country's cause!

Maidens, too, wept in secret, for well they knew, hearts that once had beat responsive to their own, were now pulseless and cold; while sisters indulged in clamerous grief for the beloved ones who had left them, no more to return!

Then came the wild shout of LIBERTY, reverberating through hill and vale: and the mourners hearts were comforted. The stars and stripes waved in triumph, as Freedom boldly planted her standard upon American soil!

Nations looked on, astonished, and in their hearts prophesied the downfall of the grand structure of Republicanism. How a People could choose its own Rulers, enact its own laws and defend them—at the same time maintain its independence and preserve harmony throughout the nation, rising high and still higher in wealth and power; was an enigma, which crowned heads had not the power to solve!

But with a Washington at our head, laws were enacted, which served to bind together the hearts of the American people;—to defend their rights as a nation, and as individuals. When dissensions have arisen in our political world, monarchs have looked to see the noble structure totter and fall, while nought remained to tell of its former greatness, save a mass of glittering ruins. But years have passed away and yet our Union remains, the glory of the whole earth. The waters of the proud Atlantic kiss her eastern borders; while far away toward the setting sun, the great Pacific lashes its waves upon our golden coast! All nations have contributed to our wealth and population,—the poor have sought here a home—the distressed have found relief and comfort, while many oppressed ones have fled hither for protection—broken off their yokes of bondage, and are now rejoicing in their liberty. America now stretches forth her hand to the ends of the earth, and welcomes with enthusiasm, the sons and daughters of other climes, who seek to share the rich blessings she bestows!

In the eastern hemisphere, political commotions and revolutions have constantly been taking place—Monarchs have been dethroned and disrobed of royalty,—Kingdoms and Empires have been shaken and crushed by the deadly stroke of oppression—the shrill notes of the clarion have sounded their death-peals as countless hosts were marshalled upon the battle field, where sped the sure arrow of destruction, hurling thousands, unprepared, into the eternal world!

And yet our Republic has not been shaken! During all the convulsions of other nations, she has remained firm—new stars have been added to the glorious constellation and her light may be seen to the uttermost parts of the earth. The Islands of the sea she hath made to rejoice, for there hath she planted the standard of the cross! Pagan nations, groping in their midnight darkness;

a faint glimmering of her glory, and already hath her light broken in upon the gloom which envelopes their benighted land. Monarchs acknowledge her power and admire the strength and beauty of her structure.

In consideration of all this, it becomes us to inquire, to what can our present prosperity be attributed? Is it because our numbers exceed those of other nations—can we boast more wealth than they? Is our climate more favorable—our soil more productive than that of many other portions of our globe? Does Pestilence never scourge, nor the dark-robed angel scatter broadcast the arrows of death in our midst? Has the great Being endowed us with greater physical powers or superior intellects, compared with the rest of mankind, or caused the lamp of reason in our souls to burn with a brighter glow? Most assuredly there is a broader, a *deeper* foundation than all this, upon which the glorious superstructure of our Republic rests!

I know that skeptics will scoff at the idea; but take from us divine Revelation—blot out forever the commandments of Jehovah, as thundered forth from Sinai's rugged mount—erase from the memory of man the thrilling scenes that transpired upon the brow of Calvary—thrust aside and trample under foot the teachings of holy men of old, ay, of the Saviour himself—let laws be framed without any reference to those emblazoned on tables of stone—close the mouths of those who go forth as Heralds of the Cross, and let the glorious news of salvation cease to be proclaimed to fallen man,—close up all avenues for religious instruction, and how long, I ask, before our Nation would be hurled from the pinnacle of its glory? Surely, before the close of the present year the sword of Jehovah would be unsheathed—divine indignation would be aroused—the fiat would go forth and judgments spread desolation throughout our goodly land! Like Nations of old, who set at naught and trampled under foot the laws of the Most High, we should be left to suffer the awful penalties, inflicted for the like transgressions. Internal commotions would soon rend assunder that bond of Union, of which we now delight to boast—political dissension would invariably lead to war and bloodshed—jealousies would be enkindled in the heart of man and burn with intensity, until the demoniac passion maddened his brain—laws, if made, would be disregarded,—our vast, our mighty Republic would be shaken from its foundation, and as its agonizing death-throes were borne upon the dark wings of the tempest; Peace, would gaze with tearful eye upon the gilded wreck, and heaving one solitary sigh, which earth, itself, would re-echo, would haste to plume her trembling wings for an eternal flight!

If, then, it be true, that our Republican Government is based upon the principles of Religion, it becomes us to feel that a holy bond exists which should serve to bind together all parts of our

Union; the dissevering of which would be followed by most disastrous results.

Our forefathers fought and sealed the liberty we enjoy with their heart's blood. It has been handed down to posterity as a sacred relic; still stained with the life-drops, with which it was so dearly purchased! And shall we regard it as a light thing, a mere toy, to be dandled in our pleasant mood, but thrust aside and trampled into the dust at any moment when the dark scowls of passion stamp their fearful impress upon our brow? Shall differences of opinions or political dogmas serve to sever, or even *weaken* the tie, that binds us together as different members of the same great family, over which floats the glorious "star spangled banner," with its ample folds? May God forbid!

We rejoice that the great Heart of America still proudly beats for perpetual Union; although some connecting arteries would fain be severed from the rich fountain of life from which they draw their nourishment, thus bringing destruction upon themselves, and paralysing the source from whence they spring.

That there are many mars and blots upon the fair face of our country's fame, no one will attempt to deny. But in their removal it were well to do it in such a manner, that no scars remain, more fatal than the malady; or that a more blighting or deadly curse may not spread itself over our already defaced parts.

But it is hoped, yea, *believed*, that the unerring hand of Providence will overrule all things for our good, so long as we, as a Nation, observe His holy laws—walk in His precepts and look constantly to Him for guidance and protection. A praying Nation will not be overthrown; the arms af the Almighty are a sure defence, and form a barrier, which no conqueror shall be able to demolish.

Ever trusting in the Lord of Hosts; we may with perfect security march boldly on, while *onward* and *upward* shall ever be the watchwords of Columbia's sons and daughters.

Harrisburg, V. B. Co., Iowa.

READING AND STUDY.

BY EDWARD STAGG.

Between Reading and Study there is a wide difference. The former may be compared to the travelling in a railway car, propelled at the rate of forty miles per hour; the latter, to the travelling on foot, and walking. In the former case, the eye, though it sees everything which comes within the range of its vision, does not *take notice*. In the latter case, the eye not only takes particular notice, but charges the memory with its faculty of retention.

And, to enable the memory the more certainly to retain, the eye often lingers, while the mind reflects, on such objects as, by their more importance, or beauty, invite its detention.

In Reading, then, the printed page is the territory over which we pass; the eye is the railway car, and the mind is the passenger. Would we could say, with truth, that but little, save mere entertainment, can be expected from such a mode of mental travel.

As mere change of scene and of air frequently produce good to our material part; so, that skimming over the page of what, in popular phrase, is denominated "light reading," may benefit, by recreating, our immaterial part. But—be it remembered—as to derive benefit from change of scene and of air, the individual must go to where the former is pleasing, and the latter is impregnated with no noxious substance; so, to benefit the mind and the heart, the printed page must present no harrowing spectacle, nor have any taint of impure sentiment, or debasing exhibition.

That printed matter to which the term Reading is more commonly applied. consists, in part, of: Newspapers, Literary Weeklies, Monthly Magazines, and Novels.

It is usual to say, when referring to his preparatory course of study for the legal profession, that such an individual "read Law with"—so and so. This expression is not strictly correct. While preparing for the Ministry, or for the practice of Medicine, the person *studies*. This he *should* do, at least, if intending to practice Law. We would not be invidious here, and hint of there being many in the legal profession who have evidently only *read* Law; for we might, with equal justice, as broadly hint that the two other professions we have named, include within their numbers those who, if they have *studied*, have done so to but little purpose.

It is common to speak of "reading the Bible." And this duty is enjoined by all truly evangelical clergymen. The Author of the Bible, however, has commanded that the Scriptures be "searched," —and this occupation involves diligent study.

Newspapers are that species of printing which has the largest number of readers. This is because they are so many, and because so valuable in conveying intelligence from one part of a country to another, and from one country to other distant, as well as adjacent, countries. We might here write a large 8vo. on the great benefit of the newspaper Press—a Press, we mean—like that of our own Country—free of Government restrictions. A people without a free Press cannot be a free people; nor can they be an intelligent people. But, while newspapers do a vast deal of good, and are mighty instruments in making, and in keeping, a people free and independent; it cannot be denied that they sometimes do evil, and are powerful instruments in corrupting minds, and inveigling many into the ways of error, and the paths of vice. It is a gratifying fact, however, that the good they do is vastly paramount to the evil which they incite.

Most all Newspapers present their readers with excerpts of a literary, or a scientific, character; and some offer tales of fiction. But, the chief design and intent of such is to give news. Of the Literary Weekly it is more particularly the province to furnish tales, poetry, and articles on the arts and sciences. These papers aim at giving as much *original* matter as practicable. And in this are the better catering to the public taste.

It were remarkable—could we not divine the cause—what superior attraction is possessed by any article—especially a tale—which has prefixed to its title, in large capitals, the word ORIGINAL. There are those who will not read a *selected* article, or an excerpt, though bearing the name of some popular author, when they are presented with an original production. The solution of this preference must be referred to that insatiate desire for "something new," which mankind manifest in almost everything.

The weeklies in question contain a summary of the news, both foreign and domestic, of every sort, which was furnished by the dailies during the week intervening the days of their publication. The low rate at which they are afforded, and their being a sort of *multum in parvo*, render them popular; and, hence, their circulation is widely extended. They go more completely into the hands of every member of the domestic circle, than does any other form of printed matter. It must be obvious, therefore, that they exert an influence—more or less powerful—for good or for evil. The evil which some of them do, is communicated in the subtle description, or the impure sentiment, of the writer of fiction; and in the celestial drapery with which he is wont to clothe moral deformity, and otherwise revolting vice. But, as we shall refer more at large to this melancholy tendency, when we speak of Novels, we will defer the subject.

The monthly Magazines—such as Godey's Lady's Book, and Sartain's and Graham's Magazines—are well patronized. The most of them being conducted with good judgment, and more with an eye to purity in contents, than the weeklies seem to be, are very welcome visitors to the family circle. They are designed, more particularly, for the female portion of creation; and their contributors are, for a great part, of that sex. The literature which they contain is, generally, of a light order; but many of their articles are exceedingly well-written, and convey a good moral.

There is another class of Magazines, published monthly, more commonly called by the general name of Periodical. Their contents are of a more standard order, and they are designed for the more thoughtful reader. They are devoted, chiefly, to the Arts and Sciences, Agriculture, Internal Improvements, and Reviews. Prominent among these publications are, *The Western Journal*, published in this City, by Tarver & Risk; and *Hunt's Magazine*, published in New York.

To those works of fiction, designated by the name of Novel, if

we wish to speak of their numbers, we may, with strict propriety, apply the appellation Legion. They may be divided into two general classes: that of those entirely fictitious; and that of those denominated Historical Romance. In these classes we have those Novels designed to exhibit the affections and passions of the human heart, as discoverable in domestic life; and those designed to show man on his more extended stage of action.

All Novels, which deserve the name, have some design, and are intended to convey some *moral*, as it is termed—though their tendency is too frequently to immorality. But, it must be admitted, that there are many works of fiction, in which it is hard to discover any aim, or design, whatever. When Solomon said, "Of making books there is no end," his prophetic vision must have penetrated into this the middle of the nineteenth century. For, it is a fact, not at all suggestive of gratifying reflections, that the Press now *teems* with certain books of fiction, whose only recommendation is that they are cheap, and whose entire beauty consists in their yellow covers. They are alike destitute of plot, of good grammar, and of style. Yet, they are eagerly sought, and greedily read. We do not believe, however, that *such* do *much* harm.

He is narrow-minded, and short-sighted, indeed, who condemns *all* works of fiction. Among those entitled to the name of Novel, there are many which do good, by the good moral they convey; by the agreeable diversion they afford to minds which are daily pressed by the cares, or the sorrows of life, and by the desirable relaxation they yield to those minds otherwise constantly exercised on professional study. The Novels of Sir Walter Scott will serve as a fair example. On the shelf of many a well-selected Library you may find these works, strongly bound and bearing the lineaments of standard literature.

To refer to a living female writer, whose works of fiction are doing much good, we will mention the name of Frederika Bremer. Whenever, as with her, the book of fiction, while it affords rational entertainment, is made to subserve the purpose of a pleasant moral teacher, then such creation of the imagination may not be proscribed without our relinquishing all claim to fairness and discrimination.

But, there are writers of fiction, not a few—celebrated artists in painting scenes of fancy—whose productions must receive the unqualified condemnation of every well-balanced intellect. Wherein lies the sin of these writers? do you ask? Not so much, possibly, in their exhibition of the darker passions, and of the vices of humanity, as in the *apology* which they offer for the vices and the debasement they depict. This apology does not *discover* itself, but is conveyed within the specious excuse, and under the attractive drapery. These ingenious writers know that,

> "Vice is a monster of so frightful mien,
> That, to be hated, needs but to be seen.—"

And, hence, like their great Spiritual Adviser, who ofttimes transforms himself into an angel of light, they too frequently "put light for darkness." They seem to delight in taking their reader to the top of some mountain of their fertile fancy, and there, for his amusement, (would it were his amusement only!) and their own glorification, transfigure the incarnation of moral blackness. Great artists are they, surely! With consummate skill, they mix the various pigments and the compound colors lie well arranged upon their mental palette. At the touch of their magic pencil, these colors flow, and do their office; and in a very little while, a gorgeous picture is made.

As we have mentioned a female Novelist of great popularity, whose productions are doing much good, we will name, in strong contrast, another female writer of fiction, whose works are doing incalculable evil. We allude to the *woman* "GEORGES SAND." To borrow an idea from a female writer in a late number of one of our Lady's Magazines, it would seem that Providence has raised up FREDRIKA BREMER for the very purpose of antidoting the evil of "GEORGES SAND."

But, has a BULWER nothing to regret, in some of *his* works of fiction? If he has, may we not, with more pertinency, ask the question of DEKOCK, of DUMAS, and of SUE? These last, with less of genius than the first, have more basely prostituted their faculties of intellect. They have scattered more noxious matter upon the literary atmosphere; and, with the large majority of mental constitutions, there is poison taken in with every inspiration.

We are persuaded that there is more evil communicated to the young heart by such works of fiction, than through any other influence by which that heart is surrounded, or with which it may come into contact. Female purity of heart is in imminent hazard of violation, whenever the works of a "GEORGES SAND," of a DEKOCK, of a DUMAS, or of a SUE, become the female's constant, or too frequent, companions. And we wonder not at the frequent defections, and the infelicity, in wedded life, when we learn that such works as we have named, have been the society of the apostate, or the unfaithful, wife's more retired hours.

We have said, that, between Reading and Study there is a wide difference; and we have compared the former to travelling in a railway car, going at a rapid rate; the latter, to travelling on foot. We have meant, by the comparison, to show, that, in Reading—as that word is generally applied and understood—the memory does not, except, perhaps, at distant intervals, perform the duties of its valuable office. Names, localities, dates, &c., are scarcely communicated to mind at all; while that which appeals to passion, permeates the mind, and makes its impress upon the heart. So that, by Reading, the *heart* may become affected—so as to run out in the conduct and the life—while the understanding remain

unenlarged, and the storehouse of memory continues unpeopled by new ideas.

Thus much for Reading.

Study may be defined as that application of the mental faculties to the subject presented, which insures that subject's retention in the memory; where, as a bought possession, it remains for use. There *is* a study which is not of books, and from it we derive a vast amount of valuable knowledge. We allude to that afforded by observation. But it is not our present purpose to enlarge on this sort.

The number of those who find delight in Study is very small, compared with that of general readers. Study is looked upon, by the large majority, as a task; and a task is seldom pleasurable.

It is needless to go over the long catalogue of books, on the many various subjects, which are more particularly used for Study. We may remark, however, that, in that catalogue, History holds a prominent place. We know that History is generally considered "dry." But, it has a powerful influence upon a reflective mind in leading it to perceive the mutability and uncertainty of all mundane things, and in showing us, by comparison with the ages that are past, what a brief space is the term of human life. It exhibits to us, moreover, the different characters of individuals, and portrays for us the hopes which animated, and the fears that depressed, in every age, those of like passions with ourselves. And History illustrates the fact that human nature has been the same in all ages of the world; while it gives us abundant evidence that man is a depraved being.

To right and profitable Study, three operations of the mind are, generally, necessary: attention, reflection, and repetition. It is to the weakness of the first of these faculties that may be traced the inability of the old to recollect distinctly. That faculty is indispensably necessary to memory; and, chiefly in proportion as attention is stronger, or weaker, will recollection be more or less vivid.

Reflection, also, is not only necessary to the bare recollection of fact, or circumstance, but it is the *suggestive* faculty, which enables us to use our acquisition to the best advantage.

Reflection, or the bringing, frequently, before the mind, objects which have been presented to it, is necessary to recollection, with almost every one, we believe; and the process is indispensable, we may affirm, whenever dates, or names, are to be recollected.

We are aware of the difference subsisting between minds, as respects their faculty of memory. Some persons there are, who, on reading a sentence once, can recollect the statement, or argument, contained therein. While, there are others who, to recollect the same passage, are obliged to re-peruse it several times. It is frequently the case, however, that those who recollect with so little effort, at the time, and who do not bring the subject more or less frequently before their minds, soon cease to recollect distinctly.

While, again, those who can memorize, or more properly speaking, recollect, only by frequent repetition, at the time, retain their information for a much longer period.

To bring forward our figure. Study is the passing over the territory, on foot. To be benefitted, by recollection of the scenes presented, we must pause, while we gaze at such as may serve to delight, or to instruct, and look attentively upon them.

We once heard the metaphorical expression that, Mr. A., who not long since had made the "grand tour" of Europe, "travelled in a balloon." To drop the metaphor, he *saw* a great deal, but *noticed* nothing; and he returned as well informed about matters and things abroad, as he would have been had he remained at home.

Of course, stopping frequently on the way renders travel slow; and, by such intermittents, so large a space cannot be gone over, in a given period, as there could be by going at a regular and more rapid pace. The desire and the aim to accomplish much, in a little time is the spirit of the present age. It will not do, however, in the matter of Study. Infinitely more can be learnt by the careful study of a few judiciously selected books, than by simply Reading hundreds of volumes. For the purpose of Study, let books be few and well selected.

That continual hunger and thirst for knowledge, which some persons experience, and which gives such zest to the pleasures of the understanding, we should not seek to remedy, by withholding intellectual meat and drink. Let the longings be gratified. He may be accounted happy, who, at the close of every day in which he has gained no more knowledge, nor conferred any benefit, can exclaim with TITUS, in regretful tone, "*Perdidi diem!*"—I have lost a day.

But, we drop the interesting subject of Reading and Study, which is worthy of a volume. We simply add, that, what has made civilized man differ from savage man, is Study.

We stop not yet. We hear a "still small voice" whispering us to pay our tribute of Study to the biography and the precepts of HIM, who lived, and spake, as no man ever did. Can one be more profitably engaged than in going over the land of Palestine by HIS side, and listening to the tones of His melodious voice! And then, having bade HIM farewell on Calvary's Summit, and taken a "last fond look," as HE ascended to glory from the top of Olivet, may we not find the sweetest pleasure in dwelling on the things the FATHER hath prepared for them that love HIM! "Eye hath not seen" them; "neither have they entered into the heart of man" that he may know what those glories are. But, through the translucent veil of the Apocalypse, we may perceive enough to delight us, while we wonder and adore.

How valuable, then, the Study which gives us the initiatory of that science—the "Science of Eternity"—which, when we shall

have "shuffled off this mortal coil," we shall, by progressive steps, be permitted to comprehend!

LOVE.

FROM THE MSS. OF THE SENIOR EDITOR.

The writings of poets, philosophers and divines abound in definitions of love; but none, we believe, have attempted to define the peculiar office which this mysterious property was designed to perform in the moral and social economy of man.

Those who profess to instruct mankind deal, chiefly, in description, comparison and precept: they furnish charts for the ocean, describe the currents, the shoals and the winds; compare the dangers of different routes, and, like true philanthropists point out the way of safety; but all this is not sufficient to ensure a prosperous voyage; the mariner must comprehend the science of navigation, the structure of his vessel and, also, the machinery and nature of the motive power by which it is propelled. Or, in other words, man should study the principles or properties which constitute his own nature that he may comprehend their propelling forces, and, the uses for which they were designed by the Author of his being.

Then, what is love, and what office does it perform in the individual, social and moral economy of man? "God is love; and he that dwelleth in love, dwelleth in God, and God in him." It is an inherent property of man's nature, emanating from Deity and not less essential to his existence than to his happiness. Were it withdrawn from man his race would perish from the earth; for he would cease to associate with his species except for the perpetration of deeds of mischief—he would realize the condition of the fallen angels.

Love is an active principle, susceptable of being excited by whatsoever is beautiful or useful in the physical, or excellent in the moral world. The emotions thus excited are involuntary; but the desires to which they give rise are subject to the control of reason. The emotions of love are more or less vivid according to the quality of the exciting object, as perceived by the mind, and the wants and tastes of the individual. If excited by phisical objects, they are usually succeeded by a desire of possession; or, if the object be such as cannot be appropriated—a sunsetting scene, a rain bow, or, the sublimely beautiful vault of heaven, bespangled with stars innumerable—the emotion is succeeded by a sense of reverence and love for Him who endowed us with faculties capable of appreciating the beauty and grandeur of his works. When excited by moral qualities, the emotions of love are succeeded by a desire that the possessor of those qualities should reciprocate the sentiment experienced by ourselves; and this desire prompts us to imi-

tate those actions and virtues which excite our admiration. Hence we perceive the use and operation of love, as a great moral agent. Ever responsive to impressions of beauty, truth and purity, it inclines the heart to harmonize with those principles; and, were it not that man's reason has been stultified by ignorance he would, ere now, have been elevated from his fallen condition to a state of inconceivable excellence and felicity.

But, it has been said that, love is blind: that man loves unworthy objects, and, that, he even delights in the indulgence of passions which are at war with his moral nature. Love does not perceive the modifications and restraints which the condition of the individual and of society impose upon its desires: this is the office of reason; but its emotions are never excited by deformity; nor by obvious and undisguised vice.

Objects of love are not less necessary to our happiness than is food to the support of our physical existence; and, consequently, although it is the nature of man to love the highest degree of excellence which his mind is capable of conceiving; yet, "the strong necessity of loving" combined with the accidents and circumstances which control his actions compel him to love objects which he would have turned from with loathing and disgust had his mind been enlightened and his condition free to follow the true instincts of his nature.

The desire for food must be gratified: and if the best and most palatable viands cannot be obtained we accept that which is less desirable; until, reduced by necessity, like the root diggers of the desert, we feed upon reptiles and insects. So, if from ignorance, or other cause, we should be rendered incapable of loving objects and qualities calculated to afford the highest state of enjoyment we select a lower degree of excellence; and may be compelled to love any object which possesses the smallest degree of virtue. In such cases we do not love that which is vicious; but the small proportion of virtue mingled with the compound. It is obvious, however, that affection for unworthy objects cannot afford that high sense of enjoyment which love was designed to impart; yet, are we doomed to drink of the cup, and drain it to the dreggs, although it may contain poison.

Love cannot exceed the mind's conceptions of the beautiful, and the excellent; and hence the ignorant and the vicious perceive but little to love in the physical or moral world. They look out upon the ever varying aspect of nature "with brute unconscious gaze" and discover nothing beyond the surface to excite emotions of love and reverence for the Author of the Universe.

To them, the social or moral world presents still less to excite their affections; for regarding their own condition as one of privation and suffering they look upon mankind as an adversary against whom they are doomed to wage a perpetual warfare. In their estimation, justice is oppression; mercy, a weakness; chari-

ty, a knavish policy; and religion, hypocracy. But even in his lowest estate man is not wholly destitute of the principle of love; for when all other objects fail to excite its emotions, self-love still survives and urges him onward to sustain his own existence though cut off from the sympathies of his race.

Thus, we perceive that this illimitable source of happiness is shut out from the human heart by ignorance. Learning and religion have done much to ameliorate the social condition; but, we are persuaded that one very important department of philosophy has been too much neglected. The benevolent designs of the Creator, as evinced in all his works, are not sufficiently studied and appreciated. One who has not cultivated a taste for the beauties of nature; who does not perceive the harmonious relations existing between the moral and physical world, is deprived of one of the principal sources of love and reverence for the Author of his being. By such an individual, every physical obstacle that lies in his way, and every change in the seasons, not agreeable to his senses, are regarded as positive evils: and, so frequently do these causes of annoyance occur that it is but natural he should call in question the benevolence of the Creator and contemn his works.

Neither have the elements of social philosophy received that consideration which they deserve.

To comprehend this science man must study the principles of his individual nature; note the emotions which arise in his own mind, and the desires which flow from them; and, observe the influences which give direction to his actions. From these mental observations he will discover that the primary emotions are always consistent with the most perfect development of his physical and moral natures: but his desires and actions being modified by external causes may be virtuous or vicious according to the accidents and circumstances, whether physical or moral, which govern his condition. The emotions of social love, the great moral element of man's nature, are often, if not continually suppressed in the minds of many by the belief that human nature is profoundly depraved; for none can love depravity. Entertaining this opinion man dares not, even were it in his power, to love his species in the spirit of the christian precept. Were the mind impressed with the truth that, although man is subject to many vices, yet, the principles which constitute his being flow immediately from the infinite fountain of wisdom and benevolence, this obstacle to social love would be removed; brighter and more consistent views of the benevolence of the Creator would be opened to his mind, and inspire his heart with Divine adoration.

Love is a living fountain springing up continually in the heart; but ignorance and distrust close the portals of its egress: remove these obstacles, and like the sealed fountain in the rock in Horeb, opened by the prophets rod, it flows in copious streams to refresh and make glad the hearts of others.

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Article I.

THE GROWTH OF CITIES IN THE UNITED STATES.

The first social enterprise undertaken after the deluge, of which we have any account, was that of building a city; and although it was prevented by the interposition of the Creator, we should not therefore conclude that He had decreed that man should always remain a denizen of the forest, nor that cities are not necessary to the advancement of civilization.

The building of Babel is supposed to have been commenced about 120 years after the flood, when the whole human race consisted of but a few families. The earth was uninhabited and unsubdued, and had these families been allowed to dwell together in one city the settlement and improvement of distant parts of the globe would have been greatly retarded; and hence we perceive the wisdom of confounding the language, and of dispersing the race throughout the whole earth.

The motive assigned for building the city and tower of Babel is worthy of observation; for, although it is not the same which prompts men of the present age to lay the foundations of cities, yet, it constitutes one of the principal elements of their growth. As the early descendants of Noah journeyed from the east, they found a plain in the land of Shinar; and they dwelt there. And they said, Go to, let us built us a city, and a tower whose top may reach unto heaven; and let us make us a name, lest we be scattered abroad upon the face of the whole earth. Hence, we perceive, that it was the social principle, more potent than the charms of natural scenery, the excitements of the chase, the quiet enjoyments of a pastoral life, or the substantial and comfortable subsistence derived from agricultural pursuits, that suggested the design of building the city and tower of Babel.

In the earlier stages of civilization cities were built chiefly as places of defence; and, were in some cases supported by contributions levied from the inhabitants of the surrounding country. As

civilization advanced they became the nurseries of the arts, the promoters of science, and depots of commerce. In the present stage of civilization commerce and the arts are the principal elements that constitute the growth of cities; and these two elements must combine, to make a city of the first magnitude. Productive industry is not less necessary to the growth and permanent support of cities, than to the prosperity of rural districts; for although commerce may be regarded as an essential element in the growth of cities, yet it could never accumulate at any one point to an extent that would give employment and support to a very great number of inhabitants.

Cities are the principal consumers of the surplus products of agriculture, and their growth may be regarded as a fair indication of the prosperity of the country whence they receive their support. It is not consistent with the nature of agricultural pursuits and the laws of commerce, that any country very remote from large commercial and producing cities can continue to increase in wealth through a long series of years; and consequently it is the policy of every country to encourage the growth of its own towns and cities. This policy has not been sufficiently appreciated by the people of the Southern and Western States of the Union until recently; but even at the present time there is a class of political economists who seem to regard commercial and producing cities as great social evils, and labor, though indirectly, to prevent them from springing up in the country. Their philanthropy however is confined to their own country; for their policy is calculated to encourage the growth of foreign cities, regardless of the evils that may accrue to the people of other lands. But in an age of progress, like the present, when the intelligence of the civilized world is employed in making discoveries calculated to enlarge the products of labor in every department of industry, and, secure to the operative a higher degree of comfort and mental improvement, all theories and doctrines opposed to the attainment of these great ends are compelled to yield to the onward current of improvement.

In such a period men look chiefly to results, and study the easiest and cheapest mode of obtaining their objects: they become expert in the calculation of profit and loss; and learning to detect the fallacies of the theorist make a practical application of the means and advantages which their condition affords.

Acting under these influences, the people of this country begin to discover many sources of wealth which have been long overlooked, and it is but natural that the discovery should suggest the means of attainment. Prompted by their instincts, the producers and consumers are rapidly approximating each other; and one of the effects of this movement is the unparallelled growth of American cities.

We are not in possession of complete returns of the census of the cities of the United States; but enough is known to enable us

to perceive the principles which influence their growth, in different regions of the country. The late census will furnish facts, when fully brought out, calculated to sustain the opinion that we have heretofore expressed in connection with other subjects, that, the great cities of this country will ultimately be found in the central region between the lakes and the Gulf of Mexico. Philadelphia has gained on New York within the last ten years; and Boston, notwithstanding her railroad connection with the West, and other improvements, has increased in population at the rate of only about 46 per cent while the increase of Philadelphia has been about 80. Portland, Maine, shows an increase of about 33 per cent. A similar difference, though perhaps not so great, is observable between the northern and southern parts of Ohio. Baltimore has also gained on the city of New York: or, in other words, shows a higher rate of increase. Lowel, Mass., and Richmond, Va., have increased in nearly an equal ratio, about 50 per cent in ten years.

But the principle is more strikingly developed west of the Alleghany mountains. Pittsburg shows an increase of over 300 per cent; Cincinnati an increase of about 150 per cent; Louisville of nearly 100 per cent, and St. Louis of about 400 per cent. While the increase of New Orleans is set down at about 45 per cent; which is far below the rate of increase of any other city in the Union of equal magnitude.

These facts are not the result of accidental causes; but natural developments of a law of commerce emanating from the geographical relations, and the mineral and vegetable productions of the eastern and southern slopes of the continent, considered under one view. The centre of population between the northern and southern extremes will range with the vallies of the Ohio and Missouri rivers; following, perhaps, a southern tributary of the latter after proceeding beyond the western boundary of Missouri. The region through which this line passes is not only capable of producing a much greater variety and quantity of food to the square mile than either the northern or southern divisions, but is also more abundant in coal and iron than any other region of equal extent perhaps on the globe. The southern and northern divisions are staple growing regions: the first of cotton and sugar: the latter of wheat: and owing to this fact their resources have been more rapidly developed than those of the centre. But staple growing districts soon reach a limit to their products beyond which they cannot advance; and their inhabitants are compelled, in time, to adopt new pursuits, emigrate, or cease to prosper as a community. And hence the population from both extremes will press towards the centre until its resources are developed to their full extent. A movement of this nature is already going on in the State of Ohio. According to the Census of 1840, northern Ohio contained a population of 746,179 and southern Ohio 773,278,: the increase from 1840 to 1850 in the southern part was 37 per cent, while that of the north

was only 23½ per cent. But even these figures do not show the relative progress of the several divisions of the State. In an article entitled "General view of the statistics of Ohio and its Towns," published in the Cincinnati Gazette, North Ohio is divided into three sections, denominated the "wheat belt," "western reserve," and "North West:" the wheat belt contained, in 1840, a population of 407,241; in 1850 the same section contained 439,-460, an increase of only 8 per cent in ten years. The increase in the civic population of the State, from 1840 to 1850, is set down at 120 per cent; while the towns in the "wheat belt" section show an increase of only 70 per cent. A review of the foregoing facts will convince every individual who will examine them in all their relations, that the central region of the United States is capable of sustaining a more dense population than either the northern or southern divisions, and, that, here, will be built up and established the great producing and commercial cities of the continent.

The effects which a thorough system of railroads is calculated to produce on the growth of cities cannot be estimated with entire certainty at present. But, were we to hazard an opinion on this point, we should say that such a system will be the means of building up and sustaining a larger number of second and third rate cities; while it will prevent the great commercial and producing cities from being as populous, in proportion to their business, as they are at present. The facilities which railroads afford enable many of those whose business is located in cities to reside in the country. Indeed, many of the handy crafts which have been almost entirely confined to cities may be carried on with greater advantages, in small towns, situated on railways, within an hour's travel of the market where their products are to be consumed or distributed. This view is sustained, we think, by the relative increase of the business and population of Boston within the last ten years. We have not seen the official statistics collected by the late census; but there can be no doubt that the increase of population in Boston is much less, in proportion to the increase of commerce there, than in any of the other larger cities. This may be owing, in part, to the want of room to extend the city; but we conclude that similar results would have taken place had there been no obstacles to the extension of the city limits.

That railroads are calculated to increase the comforts of a city residence is too obvious to be seriously questioned. Through these channels the early fruits and vegetables of the south, the potatoes of the north, the oysters of the gulf, the fish of the lakes and the game of the west, may all be delivered fresh, and at moderate prices, in the markets of our central cities; while many causes of extreme poverty will be removed, by drawing off a portion of those dependent on their labor, to rural vilages, where provisions, rent and fuel can be obtained at less cost.

We regard the rapid growth of American cities as evidence that

a great change is taking place in the pursuits and tastes of the nation; and feel persuaded that this change is calculated to advance the general prosperity of the country.

The growth of our western cities is especially necessary to the full and speedy development of the wealth of this region. It is the surest means of diversifying labor; of introducing new pursuits; and, building up a home market. The growth of these cities will attract capital from the commercial centres of other countries and permanently locate it here, where it will assist in developing our resources instead of making us dependent, as in times past, on foreign countries for many of the common comforts of life.

We do not forget that large cities are nurseries of vice, and, that, there, human nature sinks to the lowest degree in the moral scale; but, they are also the homes of learning; the nurseries of science, and, of the arts that promote the advancement of civilization.

Commercial cities are no less necessary to the advancement of civilization than highways and artificial means of transporting commodities by land and water; a place of deposite is as necessary as the road or the motive power; and we are unwilling to believe that an agent so essential to human progress is necessarily productive of evil.

And hence we are persuaded that the improvements of the age, aided by a well organized system of education and a wise civic government, administered with fidelity, will elevate the moral standard of cities to a degree equal, at least, to that of the country at large. Indeed, the oportunities of both moral and mental improvement are much greater in cities than in rural districts: books and other instruments of education are more accessible; the modes of teaching more varied; and churches more convenient; while objects calculated to suggest thought are continually presented to the senses. Nothing is lacking except a public sentiment that discriminates between vice and virtue, and, admits of no distinction but on the ground of merit.

The rapid growth of cities in the west is interesting in another point of view. It affords evidence that the social principle is gaining strength; and that the character of the people is assuming a new phase. The recent movements in relation to works of internal improvements, manufacturing and mining evince a strong tendancy to social combinations which, if wisely directed, will give a powerful impetus to the development of wealth in this region.

We rejoice that the public mind is becoming awakened to the importance of acting on this principle; for without its adoption progress is impracticable: but a word of caution, against undertaking too much in the beginning, may not be unseasonable.

The means, whether of money or labor, necessary for prosecuting any great work by associations, must be drawn, for a time, from channels where they have been employed by individuals; and if such drafts be large and suddenly made, they lessen the ordinary

facilities of commerce as well as the individual capacity of producing; and, as no immediate profits are derived from public works, pecuniary embarrassments may be regarded almost as a certain consequence. No other cause has proved so fatal to social combinations as that of undertaking to achieve too much in a given time. The revulsions which result from such a policy, bring all public enterprises into disrepute; and, generally, it is not until another generation comes upon the stage of action that the spirit of public improvement revives.

We have labored for many years, in common with others, to incite this spirit in the west; and now, when it is awakened, we deem it our duty to do all we can to give it a proper direction. We desire that this spirit should be perpetuated from generation to generation, even to the end of time: and we are persuaded that the exercise of prudent forethought and circumspection in projecting our plans of operation for a few years, will prevent the recurrence of such revulsions as have followed the prosecution of almost every great public enterprise that has been undertaken in modern times.

It should be borne in mind, that the power necessary to the achievement of almost every object, is to be measured by time as well as by the instruments to be used in its accomplishment; and should our social enterprises be so planned as to allow a just proportion of time to the means employed for their execution, our undertakings must be crowned with success.

Article II.

INTEREST ON MONEY.*

As the subject of interest on loans of money is now before the General Assembly, and the members will, in a few days, be called upon to vote and act in relation thereto, I respectfully give my views, and hope they may at least be considered worthy of consideration and reflection.

It is a matter of importance that the laws in relation to interest should be founded upon some known and fixed principles—for un-

* We have taken the following article from the columns of the "Jefferson Inquirer;" and give it a place in our Journal for the purpose of preserving it for the benefit of the next general Assembly of Missouri. Our patrons are in possession of our views on the policy of usury laws; and we are gratified that our opinions on this subject are sustained by the distinguished jurist to whom the public is indebted for this able and interesting document.

doubtedly there must be some *principle* governing this as there is governing all other matters of contract and subjects of trade and commerce.

Whilst the constitution of the United States, and of every State in the Union, are innovations upon all former systems of government; whilst every statute in our code is an innovation upon ancient laws and usages,—whilst almost every thing in America is new, we are still trammeled with old prejudices and the principles upon which old laws are founded, in regard to interest. It is time that every man of good common sense should divest himself of these prejudices, the remains of a barbarous age and monkish superstitions, and endeavor to place upon true principles the laws concerning interest.

It is not necessary to discuss the principles upon which the ancient English laws were founded, that prohibited interest *altogether*. But as they were evidently founded upon the same notions as our present laws limiting the *rate* of interest, I will briefly notice them.

They were absurd and were based partly upon an absurd precept attributed (perhaps erroneously) to Aristotle; "*That as money was barren, and did not breed money, it was unlawful to make it breed by allowing interest.*" But the same might be said of a thousand other things as well as money. Houses are barren and do not breed houses, and therefore it would be unlawful to make them breed by allowing rents. These were the notions of the philosophers. Then the Doctors of Divinity discovered that interest, or as they called it, usury, was prohibited by the Mosaical law, and therefore the taking interest was *sinful*. But the Mosaical prohibition was clearly a political one, and at most only prohibited Jews from taking interest from *Jews*, and not very certainly even that; for the language is, "*Thou shalt not lend upon usury to thy brother.*" Deut. XXIII, 20—and it left them free to take as much as they pleased from all others. The whole of this chapter is well worth reading, and if the prohibitions and requirements therein mentioned are to be carried out by the legislature, we will have some curious enactments. It will be seen also, that the 15th verse annuls a very important and useful provision of the constitution of the United States.

These absurd English laws and notions were at length exploded, but the old prejudice, which was at the bottom of them, still remains. They were replaced by others as objectionable in principle. These were the laws prohibiting interest above a certain amount. They were based upon the old prejudice against usury or interest, and upon a notion then (time of Henry the 8th) very common, that the people were incompetent to manage their own affairs, and the legislature was competent to manage them. About the same time many laws were passed regulating the prices of bread and nearly every other commodity, as well as the dress and diet of the people. Penalties were enacted against those who wore piked

shoes, short doublets, long coats and the like—and against those who were served with more than two courses at dinner or supper.

Now it appears to me strange that we should retain a single fragment of this old nonsense and mischief.—But we have retained a very important part of it—the prohibition of the people to give more than a certain rate of interest for the loan or use of money.

The principle which I maintain to be the only true and correct one is, that interest should be left, like every other part of a contract, and like every other business transaction, to be fixed by the parties entering into the contract—the lender and the borrower. If this be the true principle, then both the former law that prohibited interest above ten per cent. per annum, and the present law which prohibits interest above six per cent., are objectionable. Of course any contract for interest would be subject to be set aside for fraud, gross oppression or an undue advantage taken of the partie's situation, to the same extent and no further, as other contracts are for like causes set aside.

The above mentioned laws can only be supported upon one of two principles. 1st. That the parties are not capable of making their own contracts, and therefore the borrower might agree to pay more than money was worth, or more than he could afford to pay. Or, 2d. That such laws have a tendency to reduce or keep down the rate of interest.

As to the 1st principle,

This is, perhaps, the only contract, not possitively injurious to the public, that a man of full age and of sound mind is not permitted to make. Why is a person not as competent to make a contract for the hire or use of *money*, as he is to make other contracts, frequently of far greater importance to him? He may hire negroes, or rent houses at any rate he pleases. He may buy lands, or other property at any price he pleases. Why is he not as capable to borrow money at any rate of interest he pleases? He may borrow money, by the tens of thousands of dollars, for which he may have no use. The law never inquires into the use he has for it. But if he borrows the smallest sum for which he has the most urgent use, and agrees to pay over six per cent. interest, it is unlawful. This seems strange. A man has several houses burned in the great fire in St. Louis. He wishes to re-build, and makes his calculations accordingly. The ground is worth $500 or $600 per foot—it brings him no income, but costs him a vast sum in the way of city and other taxes. He can borrow money at twelve per cent. to rebuild, and some of the most wealthy men in St. Louis are actually doing so. When he re-builds he obtains rent on both ground and houses, far exceeding the 12 per cent. This is an advantage him, to those who rent, and to the city, county, and State by increasing the value of the property and of course the taxes thereon. Why should he not be allowed to borrow and re-build?

The legislature must answer that question; I cannot. He can only do so by violating law.

A man in St. Louis owns many vacant lots in the same neighborhood. He pays upon them heavy taxes and receives nothing in return. He wishes to build upon some of them, and to do so is willing to give ten per cent. upon the necessary amount. His rents would more than pay the interest, and the improvements would greatly enhance the value of those lots not built upon. Some of the wealthiest men in St. Louis desire to borrow money at such rates, but the law will not allow it, although it would benefit him, those who desire to rent, and the city, county, and State.

The owners of large flouring mills in the interior of the State have on hand large quantities of flour, which it will take a month to send to St. Louis and get a return of the proceeds. They would be willing to give one per cent. for that month for $5,000, with which to purchase more wheat and keep their mills going. The legislature prohibits it. Now the owners must discharge their millers (not easily replaced) and all their hands, or retain them at wages and without employment. They must let their mills remain idle and lose the grinding of $5000 worth of wheat—they must also lose the interest on the value of their mills—say $20,000, the farmers are left without a market for their wheat, and all this because the legislature thinks they cannot afford to give one per cent. on money for one month.

Persons frequently wish to borrow money for short periods, to purchase wheat, hemp, tobacco, horses, hogs or cattle. They are prohibited from doing so by the legislature, unless they can obtain the money at the rate of six per cent. per annum—that is for the one half of one per cent. for one month.

So the hog drover, the cattle drover, the horse drover, must either take half droves to St. Louis, at nearly the expense of whole droves, or not drive at all; because the legislature will not permit them to borrow money at more than one-half of one per cent.—they only wanting it for one month.

Thus the farmers are deprived of a market, and their products left on their hands, perhaps to perish, because the legislature will not permit people to make their own contracts.

It may be said that, if there were no limit to interest, except that agreed upon by the parties, many improvident, or weak or extravagant persons, would ruin themselves by paying high rates of interest. This may all be so, but such persons would ruin themselves at any rate of interest. They would be equally liable to purchase property at extravagant rates, or make other foolish contracts. After all, the error is in *borrowing* the money; and to carry out the principle and make it effectual, the legislature should prohibit them from *borrowing* at any interest. *Low* rates of interest would tempt them much more to borrow, than *high* rates; and why should every business man in the State be put under guardian-

ship, because there are persons not capable of making wise bargains?

I feel satisfied that the reason assigned in support of the law, limiting the rate of interest cannot be maintained. Let us now examine the second reason assigned; that is, that the aforesaid laws have a tendency to reduce the rates of interest. Now, if it be apparent that such laws are founded on no just principle applicable to contracts, commerce or trade, and that they, in other respects, are injurious to individuals and the community, as I think I have shown them to be; then, to justify them, it should be beyond all dispute not only that their *tendency* is to reduce the rate of interest; but that they do *actually* reduce it.

Gold and silver coin are only bullion with a stamp upon it, made by Government, and sometimes by individuals, (as in California lately,) to show its fineness and weight. This bullion, in any form or shape, and with or without stamps, is an article of *commerce* —and more universally so than any other article. The price or value of all articles of commerce depends altogether and invariably upon the demand and supply. If there be five millions to invest or loan, and a demand for only one million, the rate of interst will be low. If there be one million to loan, and five wanted, the interest will be high. But by the laws of trade, a great demand and the high prices which attend it, will soon procure a supply. So that the demand and supply are always changing, and of course the value changes with them. This is so of all articles which will bear transportation. In ancient times the intercourse between different countries was so little, and the transportation was so slow and dangerous, that it was frequently a long time before a demand in one country was supplied from another. Not so now, however —the supply in old countries is generally greater and the demand less than in new ones; because, several hundred years of industry, commercial pursuits and successful manufactories will create wealth, beyond the means of investment. This supply beyond the demand, reduces its value, or what is the same thing, the interest which can be obtained for its use. Thus, by a statute of Henry Eighth, the interest on money was fixed at ten per cent. By one of James First, it was brought down to eight. By one of Charles Second, it was brought down to six per cent.; and by one of Ann, it was brought down to five p. ct. And the actual value or market price has since fallen below five p. ct. In new countries it is obvious that the supply must be less than in old ones, and demand greater; of course the rate of interest must be higher. Here, however, in the woods, we have to put the rate of interest one per cent. below that in the comparatively old, wealthy and commercial State of New York. In England there was generally no great inconvenience felt on account of the rate of interest being limited, because the limit was far *above* the usual market price. Here we have it far *below* the market price.

If we can fix an arbitrary value or price on money, we can do the

same on any other article of commerce. In such case, we would only have to fix a high price on our hemp, tobacco, wheat, &c., and make all our farmers rich. But if we fix such prices, and they are above the market price, no person will come and buy; and if we fix a price on money below its value, no person will come and lend.

Shortly before the passage of the present act limiting the interest to 6 per cent., $400,000, as I am informed, was sent from Philadelphia to St. Louis for loan; and immediately on the passage of that act it was, by order of the owners, returned. They could get six per cent. at home, and manage it themselves, saving commissions &c., and of course, would not loan here at six. This large sum was sent from one city alone. Even if there were, in our new State, surplus funds to loan, they would not be loaned at six per cent; because better investments could be made elsewhere. State stocks, on long time, at 6 per cent. the interest paid punctually and semi-annually, can be purchased *below par*—making the interest on the money invested, seven or eight per cent. This would be a far better investment, than loaning here at six per cent. to individuals on short time. I have never heard of one dollar being loaned at six per cent. since the passage of that act. In addition to the funds in other States being excluded from Missouri by the act regulating interest, it also excludes from the money market, as lenders, all those citizens who will not violate the laws: The whole business of lending, necessarily, then, falls into the hands of the worst kind of usurers, and the only result is that the rates of interest on money has notoriously *advanced* since the passage of the act limiting it to six per cent.

The former law which limited the interest to ten per cent. was highly objectionable in principle, as interfering with the right of every citizen to make his own contracts. Besides it had a direct tendency to increase the rate of interest, especially on notes which closed accounts. The merchant would always demand on such notes, what he alledged "*the law allowed*" and the debtor, when he asked time, could not well refuse to pay the interest which "*the law allowed.*" As a limit, especially on long loans, that were well secured, and the interest on which was to be paid annually, it was too high, and on loans on very short time, say one or two months, it was not enough. For a month, which is the time that most men actively engaged in business, want money for, it was only five sixth of one per cent. No person would negotiate a loan, take securities, including deeds of trust and mortgages, run risks, and have his money on hand at the end of the month, unemployed, for five sixth of one per cent.

The law effectually prevented all such loans; the most usual and the most beneficial for men of business.

It was said by one of England's great men, that the rate of interest generally depends upon three things.—The inconvenience to the lender, the convenience to the borrower, and the risk of never

getting it again. Now if this be so, there can be no *fixed* rate of interest, because each of these things is different in every case of a loan. The length of time for which money is loaned, and the punctuality of the borrower in paying interest as it accrues, and finally the principal, must also effect the rate of interest.

It is a curious fact, that at the same time the legislature prohibited citizens from borrowing from citizens at a higher rate of interest than six per cent., it allowed the State to borrow at 8 per cent, and allowed the school funds to be loaned at 10 per cent., the banks loaning their promissory notes at 7 per cent., and two dollars in paper for every one of specie, at that.

What is most excellent sauce for the goose is not, it appears, sauce for the gander; some wise men to the contrary notwithstanding.

I therefore maintain each of the following propositions to be true.

1st. That laws relating to interest should be founded on some known and established principles.

2d. That the rate of interest is properly the subject of contract, and that the amount to be given should be left to contract.

3d. That the parties to contract are as capable of determining the rate of interest, as they are to determine other matters of contract.

4th. That laws prohibiting interest above a fixed rate, as far as they have any effect, do not diminish but increase the rate of interest.

5th. That the value or price of money, as of all other articles of commerce, depends on the demand and supply. That money is an article of commerce; and that our laws prevent a supply without diminishing the demand, and therefore increase the price.

6th. That it would be equally proper and advantageous to fix the prices of all other commodities, by law.

7th. That our laws relating to interest are injurious to the community, by preventing capital from being brought to the State; and by preventing our citizens from managing their own affairs in their own way.

8th. That the legislature by authorising the State to borrow money at 8 per cent., and the school funds to be loaned at ten per cent., must have believed that money was worth more than six per cent., or that it would not be injurious to the community to give or obtain higher rates of interest.

I submit the act of Wisconsin as the best I have seen on this subject.

An act relating to interest.

§ 1. Any rate of interest agreed upon by parties in contract, specifying the same in writing, shall be legal and valid.

§ 2. When no rate of interest is agreed upon, or specified in a note or contract seven [I would prefer six] per cent. shall be the legal rate.

§ 3. All acts and parts of acts contravening the provisions of this act are hereby repealed. W.

Article III.

POSTS.

Posts; one of the most effective instruments of civilization, to be ranked with the art of printing and the mariner's compass. We find the first posts in the Persian empire. Darius I., son of Hystaspes, caused couriers, with saddled horses, to stand ready at different stations throughout the empire, situated one day's journey from each other, in order to receive reports from the provinces without delay. Augustus established an institution in the Roman empire similar to the modern posts. The name of *posts* is said to be derived from the Latin *positus* (placed,) because horses were *put* at certain distances, to transport letters or travellers. In the ninth century, there existed in Germany, France and Italy, messengers who travelled on horseback, destined however, only for the service of government; and this establishment, besides, was of little duration. Carrier pigeons (q. v.) were used in the East, and became known in Europe through the crusaders, but seem never to have been introduced in the latter part of the world to any extent. When commerce began to flourish, the larger commercial cities, particularly in Germany, began to establish mounted messengers and stage-coaches. Travelling merchants and butchers (who ride about in the country to buy cattle) used to take charge of letters. In the beginning of the thirteenth century, the university of Paris maintained pedestrian messengers, who, at certain times took charge of letters and money for the students, collected in that city from almost all parts of Europe. Louis XI. established for his own use mounted messengers, and, by an edict of June 19, 1464, instituted post stations, at intervals of four French miles, on the chief roads of France. Charles VIII extended this institution, which existed until 1524, for the sole use of the court. When the Spaniards discovered Peru, in 1527, they found messengers placed at short distances on the road from Cusco to Quito, in order to transmit with speed the orders of the Inca. In Germany, the first post was established in Tyrol, in the latter half of the fifteenth century, by Roger I., count of Thurn, Taxis and Valassina. His son established another from Brussels to Vienna, in

1516, by the wish of the emperor Maximilian I. In 1522, a post was established between Vienna and Nuremburg, where the diet sat, on account of the war with Solyman II; but it ceased with the war. Charles V. was anxious to have news as quickly as possible, on account of the vastness of his states, and caused Leonard of Thurn and Taxis to establish a permanent riding-post from the Netherlands through Liege, Treves, Spire and Rheinhausen, through Wurtemberg, Augsburg and Tyrol to Italy. In 1543, Leonard was appointed postmaster-general of the empire. After the death of Charles V., the members of the empire were unwilling to allow a Spanish-Netherlandish post (such was that established by Charles V.) in their territories; yet Ferdinand I. confirmed Leonard in 1563. In 1595, he was appointed postmaster-general of the empire, in opposition to the wishes of the members; but several of them, having already established posts in their dominions, refused to acknowledge the exclusive privileges claimed by the imperial post. In 1615, Lemoral of Taxis was actually infeoffed with the imperial post, as an imperial fief. Ferdinand II. extended this grant so as to make it descendible to the nieces of Lemoral, and a regular post now went every week from the imperial court, and also from Rome, Venice, Milan, Mantua, &c., to Augsburg, and thence to Brussels and back. The post remained as long as the empire existed, one of its many ill-defined and unwieldy institutions, in which private or petty interest was allowed to stand in the way of the public welfare. The post was actually made a regular point in the *Wahlcapitulationen*, the stipulations between the electors and the candidate for the imperial dignity. The imperial posts were restricted, and the emperor himself excluded the Thurn and Taxis post from several of his dominions. In a country where so many small territories had their own posts, it was natural that they should remain in a bad condition, and it is only in very recent times that they have become better; yet, generally speaking, the letter-mail is not transmitted quickly. It was wise in the United States to intrust the whole post establishment to the general government thereby avoiding the difficulties which have interfered with the beneficial operation of the institution in Germany. There are at present post establishments of different kinds in Germany, Austria, Prussia, Bavaria, Hanover, the kingdom of Saxony, Baden, Brunswick, Mecklenburg-Schwerin, Holstein-Oldenburg, Holstein-Lauenburg, and Luxemburg have exclusively their own posts; but, in Wurtemberg, Hesse-Nassau, in the states of the Saxon-Ernestine line, in both the Schwarzenburgs, Hohenzollern, Waldeck, Lippe-Detmold, and the territories of the princes of Reuss, the post is left to the house of Thurn and Taxis as a fief. In some other states, the Thurn and Taxis post is founded upon a regular compact. The whole Thurn and Taxis post establishment is under the superintendence of the postmaster-general at Frankfort on the Maine. The principality of Lichtenstein has no post. The Thurn

and Taxis post extends over an area of 25,000 miles, with 3,753,-450 inhabitants. We will mention here a few items, either peculiar to Germany, or otherwise interesting. The stage-coaches, almost all over Germany, are united with the post offices, and are called *Fahrende Posten* (driving posts.) With the many disadvantages connected with this state of things, there is at least one advantage, that by these posts, which travel, of course, slower than letter-mails, parcels, &c., may be sent as safely as letters. In several German states, letters can be "recommended," when they are specified on the way bill, for which higher postage is paid. If any person wishes to communicate something to all the post-offices of a certain line, (for example, an inquiry after an important parcel,) an open paper may be sent by mail, which is read and forwarded by all the respective postmasters. *Estafettes* (q. v.) may always be had. In some states, it is permitted to pay a sum, not beyond a certain amount, to any postmaster, and to send the receipt therefor to any other part of the state, where the postmaster who receives it is obliged to pay the sum. For the remittance of small sums this is very convenient, particularly for the poorer classes. A receipt for the delivery of any letter purporting to contain a particular sum, may always be had, and this sum is paid, if the letter is lost in the regular course of transportation. If the letter, however, should arrive in good order, and no money be found in it, the government would not be answerable in consequence of such a receipt. But if a man goes to the post-office with an open letter, and encloses a certain sum therein in the presence of the postmaster, the receipt of the government makes him liable, at all events, for the safe transportation of money.—Something was said, in the beginning of this article, respecting the origin of the posts in France. During the reign of Louis XIII, 1610—30, the French system of posts received a more regular form from the establishment of a controller-general of posts. They, as well as the postmasters named in 1630, received the revenue, till at length the minister Luvois, in the reign of Louis XIV, 1676, farmed out the posts to a certain Patin, and continued to him the regulation of the postage. In 1688, when the post was farmed out for the third time, the revenue amounted to 1,400,000 francs (a franc is about 18¾ cents,) and, in 1695, when it was sold by auction unconditionally, to 2,000,000 francs. In 1733, this revenue amounted to 3,000,000, principally because the agency, in 1719, had abolished the academical couriers (on which account the university at Paris had assigned to it, from the revenue of the post-offices 300,000 francs yearly, which was paid to it till the beginning of the revolution.) In 1738, the post establishment was taken under royal management, in order that the government might find out the true income. The result of this was an increase of the sum at which it was farmed out. In 1786, when it was leased for the twenty-third time, the sum paid amounted to 10,800,000 francs. At the

expiration of the last lease, in 1791, when the establishment reverted to the king, it produced a clear income of more than 11,000,000 francs. From 1814 to 1822, the average yearly returns ef the letter posts were 21,890,000 francs: now, these returns amount to 26.560,000 francs, which is the postage of 60,000,000 letters. Besides these, there are letters and packets free of postage, so that the whole may be be reckoned at 110,000,000, without including 25,000 sheets of Parisian periodicals, sent daily to the departments, and 25,000 others which are published and circulated in the departments. The revenue from the post-office of Paris is yearly 4,310,000 francs. 40,000 letters are sent daily from Paris into the interior and abroad, of which 28—30,000 pay postage, and from 10 to 12,000 are free; and 30,000 arrive daily, of which 18,000 pay postage: thus 25,550,000 letters yearly arrive at and are sent from Paris. From the time of Louis XV till the time of the revolution, general intendants were almost always placed at the head of the post-office department, principally chosen, as in Spain and Italy, from men of the highest rank, because their place was always near the king. For the superintendence of the letter-post and postmasters, a particular council was appointed, under the presidency of the head of the department, and consisting of three general inspectors. Since 1819, the letter and extra posts (*postes relais*,) the last of which were left to the postmasters for their own advantage, have been united under the same department. A general director is chief of the whole post system, as in all the important branches belonging to the ministry of finance. In every one of the French departments is a post-inspector; every post-office has a director, a controller, and such number of assistants as circumstances may require. The postmasters stand, indeed, in respect to extra posts, under the general director, but have a particular council of direction, consisting of three general inspectors. The management of the post department is very simple, and the system of accounts worthy of imitation. The course of business is very much facilitated by the *Instruction general sur le Service des Postes*, published in 1808, and still in force. Till the revolution, which took away all privileges, the postmasters enjoyed great immunities, with regard to landed property, the quartering of soldiers, the military duties of their sons, &c. They were under the ministry of the royal household, had their commissions signed by the king, and enjoyed considerable salaries. For these reasons, they were willing to transport the mail at first for the trifling price of three, afterwards of ten sous, per pound for a stage. The national assembly gave them for their lost privileges, under the name of *salary*, a small compensation of 2—400 francs. Afterwards, in October, 1823, the postmasters received thirty sous for the horse for the transportation of the mail and public expresses; likewise for the couriers twenty-five sous. All the mails in France are accompanied by responsible couriers (*service des malles;*) they

likewise transport money and individuals, each of whom pays two francs a stage for a place, and may carry fifteen pounds luggage. The directors-general of the posts make contracts with the postmasters for the transportation of the mail and public expresses, but are not bound to keep them strictly, as it is only the extra posts to which the postmasters have an undisputed claim. They first traverse the principal routes, as through Lyons to Italy, through Bordeaux to Spain and Portugal, through Strasburg to Germany, &c. The route of the last is through the interior, and they are dependent upon private enterprise. The couriers of the great post have covered carriages, with three horses. Since the return of Louis XVIII to France, the carriages of the couriers upon the great routes have become much handsomer and more commodious. This was owing to the suggestions of the king, who had compared their tasteless structures with the light construction of the English. This gave rise, it is true, to complaints from the owners of the old carriages against the postmasters, which were even brought into the chamber of deputies, but finally settled by an agreement concluded September, 1822. Since 1791, the posts in France have been much more regular and expeditious. The postage has also, in the course of time, undergone important changes. Under Louis XIV, the farmers of the post regulated it at will; but as soon as the post system was taken under royal management, an end was put to the system of extortion, as is apparent from the earliest postage rates, namely those of the year 1701 and 1703. The present rates were established by the decree of 1806. In proportion to the postage of 1759, there is a considerable increase in particular charges, amounting to a third in the case of single letters, but the excuse for this is found in the more than trebly increased expenditure. Yet the French postage upon a single letter is more reasonable than that of any other country; for the highest price of such a letter to any part of the kingdom amounts but to one franc (18¾ cents.) The increase, however, in the price of letters with their increasing weight is not so reasonable; for the ratio in the French system is the highest of all, higher in proportion than the English, and "recommended" letters must even pay double. On the contrary, France offers an example worthy of imitation in the rates of conveyance for printed matter. Newspapers sent into the interior pay but four centimes a sheet; those sent out of the kingdom eight. Other printed matter pays five centimes in the first case, and ten in the second. These charges on printed matter must be paid upon delivery. Patterns of goods pay one third postage. Quite contrary to this is the Prussian post system of 1824, which prohibited the carrying of printed matter in the mails, and transferred it to the government baggage wagons. It imposes, moreover, a charge of triple letter postage on packages of two ounces weight, and of seven times letter postage on packages of two pounds weight. Postage upon money, since 1703, has been

fixed at five per cent., without regard to distance. Since 1759, a small post has been established in the city of Paris, under royal regulation, to the great advantage of the Parisian public. From eight offices, in different parts of the city, the letters, as well of the great as the lesser post, are distributed by the letter-carriers, five times each day during the six cold months, and six times a day during the others. As to the inviolability of letters, it is known that every postmaster must take an oath to observe it; but letters are, in fact, often opened by the secret police. In 1825, the letters sent by commercial couriers from Paris to London were broken open. The answer returned to the complaints made was, that the right to send couriers was a simple permission, in consideration of which the government must have liberty to examine the contents of the letters. In the time of the French republic and consular government, the secrecy of letters was much more regarded. After the fall of the Villele ministry, (Jan. 1828,) the government abolished the department intrusted with the unsealing of letters, and declared them inviolable. The coaches, or *diligences*, for the transportation of passengers and baggage, have always been private establishments, licensed, indeed, by the government, and paying a fixed tax to the state. Competition, therefore, has contributed much to their improvement. The most important undertaking of this kind is at Paris, *entreprise generale des messageries*. Besides *diligences*, there are *pataches*, a kind of travelling messengers, who receive travellers, and make short journeys, without changing horses, but likewise have licenses from government, and are obliged to pay a certain tax.

In 1766, there went daily from Paris twenty-seven coaches, with 270 travellers, into the different provinces. Now there are 300 coaches, which carry more than 3000 passengers. Just before 1792, the last lease of the public produced but 600,000 francs.—Now the taxes on them alone amount to nearly 4,000,000 francs. In the above mentioned year, fifty francs were paid for a seat in a carriage from Paris to Lyons, and the journey occupied ten days. Now the time does not exceed three days, and the price is seventy-two francs. The extra posts in France are particularly distinguished for their swiftness. This is owing, not to the goodness of the horses, but to the activity of the postmasters, the postilions, and the drivers. The postilion never thinks of sleep or rest. As soon as he gets in sight of his stopping-place, he gives a signal by cracking his whip, at which every thing is immediately got in readiness, so that he starts again in a few minutes. In France, the official regulations for extra posts are printed yearly, together with all the routes, and what is to be paid and to be observed at each stage; also the post charts, and all new changes.

The beginning of the English post system is observed in the statutes of Edward III; yet the supposition is not well founded that from that time the post was established as a public institution.

Edward IV placed posthouses at intervals of twenty miles; and, in the north, a military post was established to communicate as quickly as possible with the army during the Scottish war. This institution was indeed authorized by the reigning king, but it was probably owing to the king's brother Richard, who commanded the army. At what time, and under what conditions, the public were able to avail themselves of it, we have no certain knowledge. That this post, nevertheless, was, for a long time, very limited, and but partially used, is obvious from the fact, that, not long before the reign of Charles I, merchants, tradesmen, and professional men, in the whole kingdom, resorted to less secure means of conveyance, or employed express messengers, at great expense, to carry their correspondence. The universities and principal cities had their own posts,—messengers who performed long journeys, riding or walking, and returned with the answers to the letters. In this manner the post was conducted, in Scottland, till a much later period —In 1543, a post existed by which letters were carried from London to Edinburg within four days; but this rate of transportation, extraordinarily rapid for that period, lasted but a short time. After Camden, who was much employed by Elizabeth in her Scottish affairs, Thomas Randolph (in 1581) held the place of postmaster-general of England.—James I. set on foot, under the superintendence of Mathew de Quester, a system of forwarding letters intended for foreign lands. Hitherto, this had been done by private persons.—The foreign merchants settled in London preserved long after the privileges belonging to the place of postmaster for foreign letters. In 1632, Charles I., by a proclamation, forbade letters to be sent out of the kingdom except through the post-office. In 1635, he established a system of posts for England and Scottland, which was conducted according to new and judicious regulations. All private and local posts were abolished, and the income of post-offices was claimed by the king. This institution was under the direction of Thomas Witherings, who was removed in 1640, on account of notorious abuses. To him succeeded Philip Burlamachy, who was under the immediate control of the secretary of state.—In 1630, Charles, in connection with Louis XIII of France, established a post between London and Paris, from Dover to Calais, and from thence through Boulogne, Abbeville and Amiens to Paris. At the same time, the private post, which had existed between the countries, from Rye to Dieppe was abolished.

These arrangements suffered during the civil wars, many important interruptions, or were almost entirely annihilated. Yet no sooner was public tranquillity restored, than a commission was appointed, and a post system arranged, under the direction of the attorney general, Edmund Prideaux, which became so profitable, that the posts could not be leased for £10,000, while before, the support of them had cost £7,000. The lessee still made so large

profits that the common council of London looked upon him with jealous eyes. On the restoration, the system was retained with slight modifications. During the government of William III, acts of parliament were passed, which regulated the internal post system of Scotland, and, by the ninth act of queen Anne, the post system of England was arranged as it is at present. The general Post office of Great Britain has jurisdiction of all which concerns the English and Scotch posts, and those going to the English colonies, excepting the East Indies, and the settlements in the South Sea. Ireland has a separate post department. In all the cities, and in most of the large villages, Postmasters and deputy Postmasters are appointed. Their duty is to receive and despatch the mail, forward the letters to their place of destination, receive the postage, and send it at certain periods to the chief Post office. In order to ensure the observance of the different regulations which are connected with this department, and the fulfilment of the contracts for the transmission of the mail by carriages, on horseback, or on foot, seven inspectors travel on horseback through England and two through Scotland. Each of these has his particular district, in which he must watch over the regulation of the post. They correspond with the heads of the department in London. In England the number of postmasters amounts to 600, who are immediately connected with the chief post-office. In Scotland it is above 200. The regularity with which the post comes and goes, and the letters are received and distributed in England, is remarkable. The English have in this particular acquired a promptness worthy of being imitated, and which greatly contributes to the certainty and celerity of their commercial intercourse.—Nowhere is the inviolability of letters more respected than in England and the U. States. Without an accurate acquaintance with the details of the British post system, it is not possible to obtain a conception of its present perfection. Mr. Palmer's invention of mail-coaches has been found highly convenient and useful, not only for the safe and expeditious conveyance of letters, but also of passengers. Much praise is due also to the auxiliary institutions of the foot and horse posts, which complete the complicated machine. Postmasters are also established in British North America and the West Indian colonies, which regularly receive, once or twice a month, packet boats from Falmouth. Even in the seaports of the continent, of the Mediterranean sea, and South America, agents are appointed which receive English packet boats. In London there is the general and the two-penny post: in the first are the principal offices; that of the chief secretaries, receiver-general, accountant-general, &c. Besides these chief offices, there are in the city more than sixty houses where letters for the general post can be delivered. The number of the officers in the institution is 175, messengers and porters 35, letter-carriers 203, guides 270. The mail-coaches travel daily about 13,000 English miles, and the contractors receive

about one penny and a half per mile. Twenty-two mail coaches go from London, and forty-five are employed upon the other routes. The first mail coach started for Bristol, August 2, 1784, and in 1786 they were in general use. In the district of the two-penny post, which includes in its circuit, London and the country within a distance of ten miles, there are 140 houses, where letters are received; the number of officers amounts to 48; that of the letter carriers to 359. The revenue from the post offices throughout the the kingdom of England, of late years, since the restrictions on intercourse with the continent have been removed, has averaged 1½ million pounds sterling. Thus, for example, in 1828, the net income was 1,508,000, and, in 1830, 1,466,012 pounds sterling. The expenditure in 1828 was 702,418 pounds sterling. In 1801, the income was only 858,000 pounds sterling, although England possessed, even at that time, the commerce of the world. We perceive, from this comparison, how much the English trade has increased since 1815, for this trade is the great support of the post system. The postage in England is higher than in any other of the European kingdoms; but it is to be considered that the worth of money is less, and the wealth greater, than in other states. The postage may therefore be considered moderate to the inhabitants of England. From the public conveyances the government receives over 700,000 dollars, and still travelling is hardly any where so convenient, expeditious, and cheap, as in England. From Dover to London, seventy-one miles, the traveller is conveyed conveniently in eleven hours. From Edinburgh to London, 396 miles, the journey is made in coaches, fifteen of which traverse this route every week, in sixty hours. The coaches employed in 1763 took 16—18 days. The rates of postage in England are, for any distance not exceeding 15 miles, 4 d.

above 15,	and not exceeding.....	20	"	5 "
" 20	"	30	"	6 "
" 30	"	50	"	7 "
" 50	"	80	"	8 "
" 80	"	120	"	9 "
" 120	"	170	"	10 "
" 170	"	230	"	11 "
" 230	"	300	"	12 "
" 300	"	400	"	13 "
" 400, for every 100, or part of it,.....				1 "

The post establishments of the other European states are either still in a very low condition, or are formed more or less upon the models of those already mentioned. The post establishments of Russia have been much improved in later times, compared with her other political institutions. They appear to have been formed on the model of the principal post establishments in North Germany. The postage is moderate, and has been gradually rather lessened than increased. By the late rates, a letter of an ounce weight

pays two copecks for each hundred versts.* This is the rule up to 1500 versts. For any distance between 1500 and 3000 versts, only one copeck additional is paid. For any distance over 3000 versts, not more than 50 copecks are paid. Letters are sent in that immense empire 6000—7000 versts. For the sending of powers of attorney, exchange and money documents, the postage is double that of an ordinary letter. For money and packets of value, which are transported badly, and generally upon baggage wagons, the insurance is, for a distance of 500 versts, half per cent., over 500, one per cent. For letters sent abroad the Russian postage is also very moderate. Although Russia is twice as large as all Europe, and numbers more than fifty million inhabitants, yet the revenue of the postage cannot be reckoned at more than between 5—600,000 dollars. There are five post routes: those of Moscow, Riga, Viborg, Archangel, and Poland. Post carriages, or *diligences*, are not to be found in Russia. The extra posts, however, are nowhere cheaper and more expeditous. An extra post-horse costs, for a verst, not more than two copecks. A journey of 4580 versts, for which eight weeks are employed, costs, including the expense of living, only about 220 dollars. He who wishes to make use of the extra post, must be authorized by a particular pass or order. Any one travelling with an extra post in any part of the country, will find a great convenience in wearing a uniform. In Denmark, the post is managed very much with a view to revenue, but is distinguished by no particular arrangement. The postage in Sweden and Norway is more moderate, and hence the income is much less than in the neighboring state. In the Netherlands, posts were established by the ancestors of the princely Taxis house, and Leonard von Taxis held, even in 1543, the station of postmaster-general of the Netherlands. After the revolt of the Netherlands from the house of Austria, the post system of England appears to have been taken as a model. The French post system was introduced into Holland immediately after its incorporation with the French empire. So it still continues, and with very little alteration, since the change of Holland into the kingdom of the Netherlands. Italy appears to have been the cradle of the system of posts. Even under the emperor Augustus, it was in the most flourishing condition that it had enjoyed in ancient times. It was then constituted principally with a view to obtain intelligence from the army. Messengers and couriers were employed, the last of extraordinary swiftness. Thus, for example, the emperor Augustus several times received despatches from Sclavonia in four days; and Tiberius was so much accustomed to this expedition, that he indignantly threw away his despatches if they were more than twenty days from Asia, fifteen from Europe, ten from Africa, five from Sclavonia, and three from any part of Italy.—Under him,

* The amount of two copecks, or of the double copeck, in weight of copper, is a little more than a cent. A verst is about two thirds of an English mile.

and also under the succeeding emperors, extra posts were used. The head of the post department was the commander of the pretorian guards. From a manuscript in the library of the king of France, it appears that the German emperor Charles V paid the postmasters in Italy. Simon von Taxis was general post director at Milan, and resided in the imperial palace, where every thing was kept in readiness for the post service. In Milan and the neighboring places a foot post was established, which seems to have been the occasion and the model of the small posts now established in Paris. Until the union of the kingdom of Italy with the old French empire, the Italian post establishments were well ordered; but they attained, from time to time, a higher degree of perfection, by being formed on the French plan. Since 1815, the post system in the Lombardo-Venetian kingdom, in Tuscany, Parma, and Modena, has been instituted more according to the Austrian model, still retaining, however, the French basis. In other states of Italy, the posts with some modifications, continued as before. The letter and extra posts are well organized in Italy. The privacy of letters was even so much respected, that, by the criminal code of Milan, the breaking of a seal was punished with death. In Switzerland, each canton has, according to the ordinances of diet of 1803, the regulation of the post; consequently, it has its own post establishment. They are variously managed, and of various merit. A general system might make the postage cheaper, but it cannot, even at present, be called dear, as it has never been made an object of financial speculation. The absence of a general system for all the cantons has been, in some degree, compensated by agreements which have introduced some uniformity in the management of the post systems. There are no extra posts anywhere in Switzerland, and as all the regulations which have hitherto been made on this subject, have remained ineffectual, it has been supposed that the interest of in-keepers and keepers of carriages for hire, has prevented their success.—In Spain and Portugal, the post establishments are still in a very low condition, although a *correo mayor* presides over them as director-general. Only in European Turkey are they entirely in their infancy. For centuries, no change has been made, excepting that the grand signior maintains mounted Tartars for the public service, who must forward with celerity his despatches, and those of all the public authorities. In earlier times, there were public messengers who travelled on foot, but had the privilege of commanding those on horseback, whom they met, to dismount, in the name of the grand signior, and to use their horses to the place of destination, or to change them if they met others farther on, with less tired horses.

In English colonies in North America, a post-office was projected as early as 1692.—A patent was laid before the Virginia assembly for making Mr. Neal postmaster-general of Virginia and other parts of America. The assembly passed an act in its favor, but it had

no effect. It was impossible to carry it into execution on account of the dispersed situation of the inhabitants. The first office in the colonies was established in 1710, by an act of parliament, "for establishing a general post-office for all her Majesties dominions." The postmaster-general was to be "at liberty to keep one chief letter-office in New York, and other chief offices at some convenient place or places in each of her Majesty's provinces or colonies in America." After the breaking out of the revolution, this department came of course under the control of the congress of the confederacy. The constitution of the U. States, adopted in 1789, gave the exclusive power of establishing post-offices and post-roads to congress, thus preventing the difficulties which would have resulted from leaving this department to the several states. There is at the seat of government of the U. States a general post-office, under the direction of the postmaster-general, who is appointed by the president, and appoints two assistants, and such clerks as may be necessary for the performance of the business of his office. He establishes post-offices, and appoints postmasters at all such places as appear to him expedient on post roads established by law. He instructs the postmasters, provides for the carriage of the mail, and directs the routes. "No stage, or other vehicle, which regularly performs trips over a post-road, or a road parallel to it, shall convey letters, nor any packet-boat, or other vessel which regularly plies on a water declared to be a post-road, except it relates to some part of the cargo, under the penalty of fifty dollars;" but it is lawful for any one to send letters by special messenger. Robbery of the mail is punishable with imprisonment from five to ten years, and the second offence is death. If the carrier is wounded by the robbers, or his life endangered by the use of deadly weapons on their part, the first offence is punished with death. An unsuccessful attempt to rob by assaulting the carrier, or threatening him with dangerous weapons, is punished with imprisonment from two to ten years. The punishment is the same for stealing the mail, or stealing any letter or packet from it, or from a post-office. In regard to dead letters, the law provides that "the postmasters, every three months, shall publish a list of the letters remaining in their offices for three successive weeks, in one of the newspapers published at or nearest their place of residence, or shall have such lists posted at public places in their vicinity, and, at the expiration of the next three months, shall send such of the said letters as then remain on hand to the general post-office, where the same shall be opened and inspected, and if any valuable papers or matters of consequence shall be found therein, it shall be the duty of the postmaster-general to return such letter to the writer thereof, or to cause a description thereof to be inserted in one of the newspapers published at the place most convenient to the supposed residence of the owner, if within the United States; and such letter and the contents thereof shall be preserved to be delivered to the

person to whom the same shall be addressed, upon payment of the postage and the expense of publication. If the letter contains money, the postmaster may appropriate it to the use of the department, keeping an account thereof, and the amount shall be paid to the rightful claimant as soon as he shall be found." "It shall be lawful for the postmaster-general to make provision, where it may be necessary, for the receipt of all letters and packets intended to be conveyed by any ship or vessel beyond sea, or from any port in the United States to another port therein, and the letters so received shall be formed into a mail, sealed up, and directed to the postmaster of the port to which such vessel shall be bound, and for every letter or packet so received, there shall be paid, at the time of its reception, a postage of one cent, which shall be for the use of the postmasters respectively receiving the same.* And the postmaster-general may make arrangements with the postmasters in any foreign country for the reciprocal receipt and delivery of letters and packets through the post-office." Postmasters, post-riders, and drivers of the mail-stages are exempt from militia duties, and from serving on juries. *Privilege of Franking.*—Letters and packets to and from the following officers of the government are by law received and conveyed by post free of postage: the president and vice-president of the United States, secretaries of State, treasury, war and navy, attorney-general, postmaster-general and assistant postmaster-general, comptrollers, auditors, registers, and solicitor of the treasury, treasurer, commissioner of the general land-office, commissioners of the navy board, commissary-general, inspector-general, paymaster-general, superintendent of the patent-office, speaker and clerk of the house of representatives, president and secretary of the senate, and any individual who shall have been, or may hereafter be, president of the United States; and each may receive newspapers by post free of postage. Each member of the senate, and each member and delegate of the house of representatives, may send and receive, free of postage, newspapers, letters, and packets weighing not more than two ounces (in case of excess of weight, excess alone to be paid for,) and all documents printed by order of either house, during and sixty days before and after each session of congress. Postmasters may send and receive, free of postage, letters and packets not exceeding half an ounce in weight; and they may receive one daily newspaper each, or what is equivalent thereto. Printers of newspapers may send one paper to each and every other printer of newspapers within the U. States free of postage, under such regulation as the postmaster-general may provide. "If any person shall frank any letter or letters other than those written by himself, or by his order, on the business of his office, he shall, on conviction thereof, pay a fine of ten dollars."

* Persons sending letters abroad are not always aware of the necessity of paying the postage to the port in the United States where the letters are shipped.—The additional cent is paid only when they are shipped where delivered.

ARTICLE IV.

GENERAL VIEW OF THE STATES OF EUROPE.

We take advantage of a moment of apparent pause in the current of European affairs to present a concise view of the political, financial, and civil condition in which the close of the first half of the nineteenth century leaves the leading states of Europe. We do this in order to furnish a stand-point from which, in the future numbers of our Monthly Record, the changes which are apparently about to take place may be observed. The present population of Europe may be estimated at 262,000,000, upon an area of 3,816,-936 square miles, showing an average of 70 inhabitants to the square mile. If, however, we exclude Russia, together with Sweden and Norway, which with almost two-thirds of the area have but one-fourth of the population, and are therefore altogether exceptional, the remaining portion will have 138 inhabitants to a square mile; while Asia has but 32, Africa 13, North and South America 3, and Australia and Polynesia only 1. Of this population about 250,000,000, are christians, of whom there are 133,000,000 Catholics, 58,000,000 Protestants, and 59,000,000 belonging to the Greek Church; of the remainder there are seven or eight millions of Mahommedans, and two or three millions of Jews. Europe is now politically divided into 55 independent states, of which 33 belong wholly to Germany, and are included in the Germanic Confederation; 7 to Italy; and two to the Netherlands. Of these 47 have an essentially monarchical form of government, and 8 are republics. Of the monarchical governments 3 are technically called Empires, 15 Kingdoms, 7 Grand-duchies, 9 Duchies, 10 Principalities, 1 Electorate, 1 Landgraviate, and 1 Ecclesiastical State.

The UNITED KINGDOM OF GREAT BRITAIN and IRELAND, as it is officially denominated, contains an area of 117,921 square miles, with a population at the last census of 26,861,000 (1841), which is now increased to about 28,500,000. The colonies and possessions of the Crown contained in 1842 5,224,447 inhabitants. The possessions of the East India Company have a population of somewhat more than 100,000,000; and the countries over which that Company has assumed the right of protection, which is rapidly changing to sovereignty, about 35,000,000 more. The political sovereignty of the Kingdom is vested in three Estates; sovereign, lords, and commons. The House of Peers consists at present of 457 members of whom 30 are clerical: 28 Irish and 16 Scotch representative peers, elected, the former for life, the latter annually; the remainder being hereditary peers. The privileges of the peerage consist in membership of the Upper House of Parliament; freedom from arrest for debt, and from outlawry or personal attachment in civil actions; the right of trial, in criminal cases by their

own body, whose verdict is rendered, not upon oath, but upon their honor; in the law of *scandalum magnatum*, by which any person convicted of circulating a scandalous report against a peer, though it be shown to be true, is punishable by an arbitrary fine, and by imprisonment till it be paid; and in the right of sitting covered in any court of justice, except in the presence of the sovereign. The House of Commons, which, by gradual encroachments upon the Estates and especially by the prerogative which it had acquired of originating all money-bills, has become the paramount power of the state, consists of 656 members, of whom 469 are for England, 29 for Wales, 63 for Scotland, and 105 for Ireland. The revenues for the current year, according to the estimate of the Chancellor of the Exchequer, amount to £52,285,000 and the expenditures to £50,763,582, leaving a surplus of £1,521,418. The national debt of Great Britain and Ireland, funded and unfunded, amounted, Jan. 5, 1850, to £798,037,277, involving an annual expenditure of more than £28,000,000, absorbing considerably more than one half of the public revenues. The military force of the Kingdom is as follows:

Household troops	6,568
Soldiers of the Line, in pay of the Crown	91,956
" " " East India Company	31,100
Colonial Corps	6,272

Making in all 129,625. The whole number of troops stationed in the United Kingdom is about 61,000, of whom 24,000 are in Ireland. The force of the British navy in Dec. 1848 is thus given in the Royal Calender for 1849:

Ships of 100 or more guns;	750 or more men	26
" 80–100 "	700–750 "	42
" 70–80 "	600–700 "	45
" 50–70 "	400–600 "	39
" 36–50 "	250–400 "	68
" 24–36 "	250 or less "	184

Making a total of 404 armed vessels, with 17,023 guns. To these, the Calender adds the names of 74 yachts, hulks, quarter-service vessels, etc.; 125 steamers, and 21 steam-packets, making 614 vessels of every description. The British Almanac for 1851, probably a more reliable authority, gives the whole number, on July 30, 1849, as 339 sailing vessels, 161 steamers of all classes, besides 47 steamers employed under contract as packets, and capable of being converted, in case of need, into vessels of war.

The Republic of France covers an area of 204,825 square miles, and its population, as given in the *Moniteur*, February, 1847, was 35,400,486: besides which, the French colonies have

about 1,000,000 inhabitants. The Constitution of the Republic was voted by the National Assembly at its sitting, November 4, 1848. The Introduction recites that France constitutes herself a Republic, and that her object in so doing is a more free advance in progress and civilization. The Constitution consists of twelve chapters, containing 115 articles, as follows: I. The sovereignty is in the body of the citizens. II. The rights of citizens are guaranteed by the Constitution. III. Of public powers. IV. Of the Legislative power. The representatives of the people to be 750 (since increased to 900), elected for three years, by direct and universal suffrage, by secret ballot. All Frenchmen of the age of 21 years to be electors, and to be elligible to office at 25 years. This article is, in effect, modified by a subsequent law, passed May 31, 1850, by which the electoral lists are to comprehend all Frenchmen who have completed their 21st year, enjoy civil and political rights, and have resided in the commune, or canton, for a period of not less than three years; the law embraces, moreover, many further restrictions, which greatly limit the right of suffrage. V. The executive power is vested in the President, elected for four years, by an absolute majority, by secret ballot; he is not eligible for re-election until after an interval of four years. VI. The Council of State consists of 40 members, elected for six years, by the National Assembly, who are to be consulted in certain prescribed cases; but government is not obliged to consult the Council respecting the budget, the state of the army, or the ratification of treaties. The Vice-President of the Republic is the President of the Council; he is chosen by the National Assembly from three candidates proposed by the President. VII. Of the domestic administration. VIII. Of judicial powers. IX. Of the public forces. X. Of the Legion of Honor, Algiers and the colonies. XI. Of the revision of the Constitution, in case the National Assembly in the last year of its term shall vote any modifications to be advisable. XII. Contains various temporary dispositions. The finances of France have long been in an extremely unsatisfactory condition. The immediate cause of the revolution of 1789 was the enormous and increasing deficiency of the revenue. Upon the accession of Louis Philippe, in 1830, the expenditures of government began again to exceed the receipts, until 1846, when the expenditures amounted to 2,793,000,000 francs, exceeding the revenues by 421,462,000f. The budget presented by the Minister of Finance for the financial year 1851, estimates the receipts at 1,292,633,639f, exceeding the expenditures by 10,370,390f., being the first year when there has been a surplus since the revolution of 1830. The consolidated public debt of France amounts to 4,509,648,000f., to which is to be added a floating debt of 515,727,294f., making in all more than 5000 millions of francs, the interest upon which amounts to above 327,000,000f., absorbing about one-fourth of the revenue. The French army now on foot amounts to 396,000

men; by the law of June 19, the number was fixed at 106,893, to which, according to the late Message of the President, it will be speedily reduced, should public affairs warrant the reduction. The navy, according to an ordinance of 1846, was to consist of 226 sailing vessels, and 102 steamers, of all classes, which number, however, was never reached. The present force is 125 vessels (a reduction of 100 vessels during the year), and 22,561 men. Since the election of Louis Bonaparte as President of the Republic, his whole policy has been directed to the effort of perpetuating his authority, either as President for life, or Emperor. The Duke of Nemours and Count of Chambord, the respective representatives of the lines of Orleans and Bourbon, have each a large number of partizans; while opposed to all of these are the Democrats and Socialists, of every shade, who are utterly averse to any form of monarchical government.

We gave in our last number a view of the general state of the Germanic Confederation. It is needless to present the statistics of the minor German States, as they do not possess sufficient weight to act except in subservience to either Austria or Prussia.

The Kingdom of PRUSSIA consists of two distinct territories, at a distance of about forty miles from each other, with Hesse-Cassel and Hanover intervening. It has an area of 108,214 square miles, with a population, at the end of 1849, of 16,331,187, of whom about 10,000,000 are Protestants, and 6,000,000 Catholics. The finances are in a very healthy condition. According to the budget of 1850, the amount of the revenue was 91,338,449 crowns; the ordinary expenses of government, including the sinking fund of the public debt, of two and a half millions, were 90,974,393 crowns, to which is to be added expenses extraordinary and accidental, to the amount of 4,561,158 crowns. The public debt, of every description, including treasury notes, not bearing interest, is 187,-160,272 crowns, of which the interest amounts to 4,885,815, absorbing less than one-eighteenth of the public revenues. The army, upon a peace-footing, consists of 121,100 regular troops, and 96,100 *Landwehr* of the first class, forming a total of 217,200. Upon the war-footing the numbers are augmented to 528,800. The Landwehr is divided into two classes, the first embracing every Prussian between the ages of twenty and thirty-two, not serving in the standing army, and constitutes an army of reserve, not called out in time of peace except for drill, in the autumn; but called into active service upon the breaking out of war. The whole country is divided into arondissements, and no one belonging to the Landwehr can leave that to which he belongs, without permission of the sergeant-major. In every considerable town depots of stores are established, sufficient to provide for this force, and a staff under pay, so that they may be at once organized. When assembled for drill, the Landwehr receive the same pay as the regular army. When they are ordered beyond their own arrondissement, their

families become the legal wards of the magistracy, who are bound to see that they are provided for. The Landwehr of the second class consists of all from thirty-two to forty years who have quitted the first class. To them, in case of war, garrison duty is committed. The *Landsturm* or levy *en masse*, embraces all Prussians between the ages of seventeen and fifty, not belonging to either of the above classes; this forms the final resource and reserve of the country, and is called out only in the last extremity.

The Empire of AUSTRIA, containing an area of 258,262 square miles, embraces four principal divisions, inhabited by different races, with peculiar laws, customs, and institutions. Only about one-fourth of its population is comprehended within the German Confederation, though she now seeks to include within it a great portion of her Slavic territories. The population, as laid down in the chart of the "Direction Imperiale de la Statistique Administrative," is made up of the following elements:

Germans	7,980,920
Slavonians	15,170,602
Italians	5,063,575
Romano-Valaques and Moldavians	2,686,492
Magyars	5,418,773
Jews	746,891
Miscellaneous races	525,873
Total	37,593,125

The national debt, after deducting the effects belonging to the sinking fund, amounts at the beginning of the present year to 997,706,654 florins, the interest upon which, 54,970,830 florins, absorbs more than one-third of the revenues. The receipts for the year 1848 were 144,003,758 and the expenditures 283,864,674 florins, showing a deficit of about 140,000,000; this, however, is exceptional; the deficit for the first quarter of 1850, reaching only to 18,000,000 florins. The regular army, prior to the revolution of 1848, consisted of about 230,000 men, which might be increased in time of war to 750,000. But so large a portion of the forces of Austria are required to keep in subjection her discontented Italian and Hungarian territories, that she could not probably detach, if unsupported by Russia, 200,000 men for effective service. The navy consists of 31 armed vessels, carrying 544 guns; 15 steamers, of which two are of 300 horse-power, the others smaller: besides gun-boats.

The RUSSIAN Empire occupies considerably more than one-half of Europe, its area being 2,099,903 square miles. The population according to the most recent estimates is about 62,000,000. Of these about 21,000,000 are serfs of the nobles, and belong to the soil; 17,500,000 formerly serfs of the crown, who may be

considered personally as freemen, having been emancipated; 4,500,000 burghers; and the remainder are nobles, either hereditary or personal; the latter dignity being confered upon all civil and military officers, and upon the chief clergy and burghers. No satisfactory statistics exhibiting the present state of the financial and military affairs of the empire are accessible. The *Almanach de Gotha* of the present year omits the statistical details previously given; and is unable to furnish more recent details. It is understood, that the revenues and expenditures for some years past have been about $81,000,000. The public debt is stated at 336,219,-492 silver roubles. The army is given, in round numbers, at 1,000,000. It is supposed that in case of war Russia is able to send into the field not less than 800,000 men. This immense disposable force, absolutely under the control of the Emperor, renders the power of Russia imminently dangerous to the peace of Europe. By a course of masterly policy, directed to one end, the influence of the empire has been gradually extended toward the centre of Europe; and the only conceivable means of checking it seems to be a confederation of all the German States, so close, that they shall in effect constitute but one nation. It is this consideration which, underlying the whole current of European politics, renders the present juncture of affairs so critical. The great question of the supremacy of race—the question whether the Teutonic or the Slavic race shall predominate, and direct in the affairs of Europe—rests apparently upon the events which are about to transpire.

The remaining nations of Europe are too feeble in numbers, or too enervated in character, to exercise any great influence upon the current of events. The hope once entertained, that a union of the ITALIAN race was to take place has been frustrated, and the Peninsula, containing a population of nearly 25,000,000 inhabitants is broken up into petty governments each more despicable than the other. TURKEY in Europe has about 15,500,000 inhabitants, but the Ottoman race, is hardly more than a military colony, and numbers but little above a million; while the Mahommedan religion has less than four millions of adherents; the Greek church alone numbering eleven and a half millions. Three-fourths of the population, therefore, both in race and faith have less affinity for Turkey than Russia, into whose hands they are ready to fall. SPAIN, to check whose power was the great object of all Europe two centuries and a half since, is now utterly bankrupt in character and means. Every year shows a large deficit in her revenues, although she pays the interest upon but a fraction of her public debt, which amounts to fifteen thousand five hundred millions of reals, the interest of which, at six per cent. would, if paid, absorb the whole of the revenue. The navy, which as late as 1802 numbered 68 ships of the line and 40 frigates had sunk in 1849 to 2 ships of the line, 5 frigates, 14 brigs and corvettes, and 15 small

steamers of from 40 to 350 horse-power, and of these hardly any, it is said, were fit for service. PORTUGAL has experienced a like decline, every year showing a deficit; the interest of her debt of about $90,000,000, absorbing fully one-third of her revenues. GREECE is hardly worthy of the name of a kingdom. In a word, incurable decay seems to have fallen upon all the nations of Southern Europe. The political condition of HOLLAND, BELGIUM, SWITZERLAND, DENMARK, and SWEDEN may be called prosperous, but they have little weight in the affairs of Europe. Last and least of all, the little Republic of SAN MARINO, in reality the oldest of all the existing governments of Europe, with a population of but 8000, sits upon her rock, where for fourteen centuries she has watched the rise and fall of the mighty states around her. In all except her venerable antiquity she seems a caricature upon larger nations, with her army of 27 men, her three estates, nobles, burghers, and peasants, her two "capitani regenti," elected for six months, and her secretaries for foreign and domestic affairs. But weak as she seems, she was a state when Britain was but a hunting-field for Danish and Saxon pirates; and may still exist when Britain shall have become as Tyre and Carthage.

ARTICLE V.

PUBLIC LIBRARIES*

The origin of libraries is involved in obscurity. According to some, the distinction of having first made collections of writings belongs to the Hebrews; but others ascribe this honor to the Egyptians. Osymandyas, one of the ancient kings of Egypt, who flourished some 600 years after the deluge, is said to have been the first who founded a library. The temple in which he kept his books was dedicated at once to religion and literature, and placed under the especial protection of the divinities, with whose statues it was magnificently adorned. It was still further embellished by a well-known inscription, for ever grateful to the votary of literature: on the entrance was engraven, "The nourishment of the soul," or, according to Diodorus, "The medicine of the mind." It probably contained works of very remote antiquity, and also the books accounted sacred by the Egyptians, all of which perished amidst the destructive ravages which accompanied and followed the Persian

* The following article consists of extracts from "Chamber's papers for the people" which we find published in the February number of "The International." We have only extracted so much of the article as relates to the history of ancient libraries and the statistics of the principal libraries of the present age.

EDITORS W. J.

invasion under Cambyses. There was also, according to Eustathius and other ancient authors, a fine library at Memphis, deposited in the Temple of Phtha, from which Homer has been accused of having stolen both the "Illiad" and the "Odyssey," and afterwards published them as his own. From this charge, however, the bard has been vindicated by various writers, and by different arguments.

But the most superb library of Egypt, perhaps of the ancient world, was that of Alexandria. About the year 290 B. C., Ptolemy Soter, a learned prince, founded an academy at Alexandria called the Museum, where there assembled a society of learned men, devoted to the study of philosophy and the sciences, and for whose use he formed a collection of books, the number of which has been variously computed—by Epiphanius at 54,000 and by Josephus at 200,000. His son, Ptolemy Philadelphus, an equally liberal and enlightened prince, collected great numbers of books in the Temple of Serapis, in addition to those accumulated by his father, and at his death left in it upwards of 100,000 volumes. He had agents in every part of Asia and of Greece, commissioned to search out and purchase the rarest and most valuable writings; and among those he procured were the works of Aristotle, and the Septuagint version of the Jewish Scriptures, which was undertaken at the suggestion of Demetrius Phalerius, his first librarian. The measures adopted by this monarch for augmenting the Alexandrian Library were pursued by his successor, Ptolemy Euergetes, with unscrupulous vigor. He caused all books imported into Egypt by Greeks or other foreigners to be seized and sent to the Museum, where they were transscribed by persons employed for the purpose; and when this was done, the copies were delivered to the proprietors, and the original deposited in the library. He refused to supply the famished Athenians with corn until they presented him with the original manuscripts of Æschylus, Sophocles, and Euripides; and in returning elegant copies of these autographs, he allowed the owners to retain the fifteen talents (more than £3000 sterling) which he had pledged with them as a princely security. As the Museum, where the library was originally founded, stood near the royal palace, in that quarter of the city called Brucheion, all writings were at first deposited there; but when this building had been completely occupied with books, to the number of 400,000, a supplemental library was erected within the Serapeion, or Temple of Serapis, and this gradually increased till it contained about 300,000 volumes—making in both libraries a grand total of 700,000 volumes.

The Alexandrian Library continued in all its splendor until the first Alexandrian war, when, during the plunder of the city, the Brucheion portion of the collection was accidentally destroyed by fire, owing to the recklessness in the auxiliary troops. But the library of the Serapeion still remained, and was augmented by subsequent donations, particularly by that of the Pergamean Li-

brary of 200,000 volumes,* presented by Mark Antony to Cleopatra, so that it soon equalled the former, both in the number and in the value of its contents. At length, after various revolutions under the Roman Emperors, during which the collection was sometimes plundered and sometimes re-established, it was utterly destroyed by the Saracens at the command of the Caliph Omar, when they acquired possession of Alexandria in A. D. 642. Amrou, the victorious general, was himself inclined to spare this inestimable treasury of ancient science and learning, but the ignorant and fanatical caliph, to whom he applied for instructions, ordered it to be destroyed. "If," said he, "these writings of the Greeks agree with the Koran, they are useless, and need not be preserved; if they disagree, they are pernicious and ought to be destroyed." The sentence of destruction was executed with blind obedience. The volumes of parchment or papyrus were distributed as fuel among the five thousand baths of the city; but such was their incredible number, that it took six months to consume them. This act of barbarism, recorded by Abulpharagius, is considered somewhat doubtful by Gibbon, in consequence of its not being mentioned by Eutychius and Almacin, two of the most ancient chroniclers. It seems inconsistent, too, with the character of Amrou, as a poet and a man of superior intelligence; but that the Alexandrian Library was thus destroyed is a fact generally credited, and deeply deplored by historians. Amrou, as a man of genius and learning, may have grieved at the order of the caliph, while, as a loyal subject and faithful soldier, he felt bound to obey.

Among the Greeks, as among other nations, the first library consisted merely of archives, deposited, for the sake of preservation, in the temples of the gods. Pisistratus, the tyrant of Athens, was the first who established a public library in his native city, which, we need not say, always took the lead in every thing relating to science and literature in Greece. Here he deposited the works of Homer, which he had collected together with great difficulty and at a very considerable expense; and the Athenians themselves were at much pains to increase the collection. The fortunes of this library were various and singular. It was transported to Persia by Xerxes, brought back by Seleucus Nicator, plundered by Sylla, and at last restored by the Emperor Hadrian. On the invasion of the Roman Empire by the Goths, Greece was ravaged; and on the sack of Athens, they had collected all the libraries, and, were upon the point of setting fire to this funeral pile of ancient learning, when one of their chiefs interposed, and dissuaded them from

* The Library of Pergamos was founded by King Eumenes, and enlarged by his successor Attalus. It soon became so extensive that the Ptolemies, afraid that it would speedily rival their own collection at Alexandria, issued an edict forbidding the exportation of papyrus; but this prohibition, so far from attaining the unworthy object for which it was destined, proved rather beneficial; for the Pergamians, having exhausted their stock of papyrus, set their wits to work, and invented parchment (*charta Pergamena*) as a substitute.

their design, observing, at the same time, that as long as the Greeks were addicted to the study of books, they would never apply themselves to that of arms.

The first library established at Rome was that founded by Paulus Emilius, in the year B. C. 167. Having subdued Perses, king of Macedonia, he enriched the city of Rome with the library of the conquered monarch, which was subsequently augmented by Sylla. On his return from Asia, where he had successfully terminated the first war against Mithridates, Sylla visited Athens, whence he took with him the library of Apellicon the Teian, in which were the works of Aristotle and Theophrastus. Lucullus, another conqueror of Mithridates, was not less distinguished by his taste for books. The number of volumes in his library was immense, and they were written in the most distinct and elegant manner. But the use which he made of his collection was still more honorable to that princely Roman than the acquisition or possession of it. "It was a library," says Plutarch, "whose walls, galleries, and cabinets were open to all visitors; and the ingenious Greeks, when at leisure, resorted to this abode of the Muses, to hold literary conversations, in which Lucullus himself loved to join." But although both Sylla and Lucullus liberally gave public access to their literary treasures, still their libraries can, in strictness, be considered as only *private* collections. Among the various projects which Julius Cæsar had formed for the embellishment of Rome, was that of a *public* library, which should contain the largest possible collection of Greek and Latin works; and he had assigned to Varro the duty of selecting and arranging them. But this design was frustrated by the assassination of the dictator, and the establishment of public libraries did not take place in Rome until the reign of Augustus.

The honor of having first established these valuable institutions is ascribed by the elder Pliny to Asinius Pollio, who erected a public library in the Court of Liberty, on the Aventine Hill. The credit which he gained thereby was so great that the emperors became ambitous to illustrate their reigns by the foundation of libraries, many of which they called after their own names. Augustus was himself an author, and in one of those sumptuous buildings called *Thermæ*, ornamented with porticoes, galleries, and statues, with shady walks and refreshing baths, he testified his love of literature by adding a magnificent library, which he fondly called by the name of his sister Octavia. The Palatine Library, formed by the same emperor, in the Temble of Apollo, became the haunt of the poets, as Horace, Juvenal, and Perseus have commemorated. There were deposited the corrected books of the Sibyls; and from two ancient inscriptions, quoted by Lipsius and Pitiscus, it would seem that it consisted of two distinct collections—one Greek, and the other Latin. This library having survived the various revolutions of the Roman Empire, existed until the time of Gregory the

Great, whose mistaken zeal led him to order all the writings of the ancients to be destroyed. The successors of Augustus, though they did not equally encourage learning, were not altogether neglectful of its interests. Suetonius informs us that Tiberius founded a library in the new Temple of Apollo; and we learn from some incidental notices that he instituted another, called the Tiberian, in his own house, consisting chiefly of works relating to the empire and the acts of its sovereigns. Vespasian, following the example of his predecessors, established a library in the Temple of Peace, which he erected after the burning of the city by order of Nero; and even Domitian, in the commencement of his reign, restored at great expense the libraries which had been destroyed by the conflagration, collecting copies of books from every quarter, and sending persons to Alexandria to transcribe volumes in that celebrated collection, or to correct copies which had been made elsewhere. But the most magnificent of all the libraries founded by the sovereigns of imperial Rome was that of the Emperor Ulpius Trajanus, from whom it was denominated the Ulpian Library. It was erected in Trajan's Forum, but afterwards removed to the Viminal Hill, to ornament the baths of Diocletian. In this library were deposited the elephantine books, written upon tablets of ivory, wherein were recorded the transactions of the emperors, the proceedings of the senate and Roman magistrates, and the affairs of the provinces. It has been conjectured that the Ulpian Library consisted of both Greek and Latin works; and some authors affirm, that Trajan commanded that all the books found in the cities he had conquered should be immediately conveyed to Rome, in order to increase his collection. The library of Domitian having been consumed by lightning in the reign of Commodus, was not restored until the time of Gordian, who rebuilt the edifice, and founded a new library, adding thereto the collection of books bequeathed to him by Quintus Serenus Samonicus, the physician, and amounting, it is said, to no fewer than 72,000 volumes.

In addition to the imperial libraries, there were others to which the public had access in the principal cities and colonies of the empire. Pliny mentions one which he had founded for the use of his countrymen; and Vopiscus informs us that the Emperor Tacitus caused the historical writings of his illustrious namesake to be deposited in the libraries. The number of calcined volumes which have been excavated from the ruins of Herculaneum and Pompeii would also seem to indicate that collections of books were common in those cities. But the irruptions of the barbarians, who overran and desolated the Western Empire, proved more destructive to the interests of literature than either volcanoes or earthquakes, and soon caused the disappearance of those libraries which, during several centuries, had been multiplied in Italy. Those of the East, however, escaped this devastating torrent; and both Alexandria and Constantinople preserved their literary treasures, until their

capture by the Saracens and Turks, who finally subverted the Eastern Empire.

When Constantine the Great made Byzantium the seat of his empire, he decorated that city with splendid edifices; and called it after his own name. Desirous to make reparation to the Christians for the injuries they had suffered during the reign of his predecessor, he commanded the most diligent search to be made after those books which Diocletian had doomed to destruction; he caused transcripts to be made of such as had escaped the fury of the pagan persecutor; and, having collected others from various quarters, he formed the whole into a library at Constantinople. At the death of Constantine, however, the number of books in the imperial library was only 6900; but it was successively enlarged by the Emperors Julian and Theodosius the younger, who augmented it to 120,000 volumes. Of these more than half were burned during the seventh century, by command of the Emperor Leo III., who thus sought to destroy all the monuments that might be quoted in proof respecting his opposition to the worship of images. In this library was deposited the only authentic copy of the proceedings at the Council at Nice; and it is also said to have contained the poems of Homer written in gold letters, together with a magnificent copy of the Four Gospels, bound in plates of gold, enriched with precious stones, all of which perished in the conflagration. The convulsions which distracted the lower empire were by no means favorable to the interests of literature. In the eleventh century learning flourished for a short time during the reign of Constantine Porphyrogennetus; and this emperor is said to have employed many learned Greeks in collecting books, and forming a library, the arrangement of which he himself superintended. But the final subversion of the Eastern Empire, and the capture of Constantinople in 1453, dispersed the literati of Greece over western Europe, and placed the literary remains of that capital at the mercy of the conqueror. The imperial library, however, was preserved by the express command of Mohammed, and continued, it is said, to be kept in some apartments of the seraglio; but whether it was sacrificed in a fit of devotion by Amurath IV., as is commonly supposed, or whether it was suffered to fall into decay from ignorance and neglect, it is now certain that the library of the sultan contains only Turkish and Arabic writings, and not a single Greek or Latin manuscript of any importance. * * * * * * * * *

MODERN LIBRARIES IN EUROPE AND AMERICA.

On Mr. Edward's map of Europe we find the smaller German states to be represented with the lightest lines, indicating the highest rank, and Great Britain with the darkest or lowest. He states the provision of books in libraries publicly accessible, as compared with the population, to be as follows:—In Saxony, for every 100 inhabitants there are 417 books; in Denmark, 412; in Bavaria, 339: in Tuscany, 261; in Prussia, 200; in Austria, 167; in

France, 129; in Belgium, 95; whilst in Great Britain there are only 53 to every 100 inhabitants.

In the following tables, the libraries containing fewer than 10,000 volumes each (of which there are, in France alone, at least seventy or eighty) are not taken into the account:—

France	has	107	public libraries,	containing	4,000,000	volumes.
Prussia	"	44	"	"	2,400,000	"
Austria	"	48	"	"	2,400,000	"
Great Britain	"	33	"	"	1,771,000	"
Bavaria	"	17	"	"	1,267,000	"
Denmark	"	5	"	"	645,000	"
Saxony	"	6	"	"	554,000	"
Belgium	"	14	"	"	538,000	"
Tuscany	"	9	"	"	411,000	"

Taking the capital cities; we find the following results:—

Paris	has	9	public libraries,	containing	1,474,000	volumes.
Munich	"	2	"	"	800,000	"
Copenhagen	"	3	"	"	557,000	"
Berlin	"	2	"	"	530,000	"
London	"	4	"	"	490,500	"
Vienna	"	3	"	"	453,000	"
Dresden	"	4	"	"	340,500	"
Florence	"	6	"	"	318,000	"
Milan	"	2	"	"	230,000	"
Brussels	"	2	"	"	143,500	"

Arranging these libraries according to their extent, or number of printed books, they would stand as follows:—

	Printed Books.	Manuscripts.
Paris (1), National Library,	824,000	80,000 volumes.
Munich, Royal Library,	600,000	22,000 "
St. Petersburg, Imperial Library,	446,000	20,650 "
London, British Museum,	435,000	31,000 "
Copenhagen, Royal Library,	412,000	3,000 "
Berlin, Royal Library,	410,000	5,000 "
Vienna, Imperial Library,	313,000	16,000 "
Dresden, Royal Library,	300,000	2,800 "
Wolfenbuttel, Ducal Library,	200,000	4,580 "
Madrid, National Library,	200,000	2,500 "
Stuttgard, Royal Library,	187,000	3,300 "
Paris (2), Arsenal Library,	180,000	6,000 "
Milan, Brera Library,	170,000	1,000 "
Darmstadt, Grand Ducal Library	150,000	4,000 "
Paris (3), St. Genevieve Library,	150,000	2,000 "
Florence, Magliabecchian Library,	150,000	12,000 "
Naples, Royal Library,	150,000	3,000 "
Edinburgh, Advocates' Library,	148,000	2,000 "
Brussels, Royal Library	133,500	18,000 "
Rome, (1), Casanata Library,	120,000	4,500 "
Hague, Royal Library,	100,000	2,000 "

	Printed Books.	Manuscripts.
Paris (4), Mazarin Library,	100,000	4,000 "
Rome (2), Vatican Library,	100,000	24,000 "
Parma, Ducal Library,	100,000	

The chief university libraries may be ranked in the following order:

	Printed Books.	Manuscripts.
Gottingen, University Library,	360,000	3,000 volumes.
Breslau, University Library,	250,000	2,300 "
Oxford, Bodleian Library,	220,000	21,000 "
Tubingen, University Library,	200,000	1,900 "
Munich, University Library,	200,000	2,000 "
Heidelberg, University Library,	200,000	1,800 "
Cambridge, University Library,	166,000	3,163 "
Bologna, University Library,	150,000	400 "
Prague, University Library,	130,000	4,000 "
Vienna, University Library,	115,000	"
Leipsic, University Library,	112,000	2,500 "
Copenhagen, University Library,	110,000	"
Turin, University Library,	110,000	2,000 "
Louvain, University Library,	105,000	246 "
Dublin, Trinity College Library,	104,239	1,512 "
Upsal, University Library,	100,000	5,000 "
Erlangen, University Library,	100,000	1,000 "
Edinburgh, University Library,	90,354	310 "

The largest libraries in Great Britain are those of the

	Printed Books.	Manuscripts.
British Museum, London,	435,000	31,000 volumes.
Bodleian, Oxford,	220,000	21,000 "
University, Cambridge,	166,724	3,163 "
Advocates', Edinburgh,	148,000	2,000 "
Trinity College, Dublin,	104,239	1,512 "

There are in the United States of America at least 81 libraries of 5000 volumes and upwards, each, to which the public, more or less restrictedly, have access, and of these 49 are immediately connected with colleges or public schools. The aggregate number of volumes in these collections is about 980,413. We subjoin the contents of a few of the largest:—

Harvard College Library,	72,000 volumes.
Philadelphia and Loganian Library,	60,000 "
Boston Athenæum,	50,000 "
Library of Congress,	50,000 "
New-York Society Library,	32,000 "
Mercantile Library, New-York,	32,000 "
Georgetown College,	25,000 "
Brown University,	24,000 "
New-York State Library,	24,000 "
Yale College,	21,000 "

POPULATION OF MISSOURI.

The following tables, showing the population of the several counties in the State, will be found useful to those who feel an interest in the commercial resources of its different divisions as well as to individuals who are looking to Missouri for locations and settlement. We design, at as early a day as practicable, to procure for publication the agricultural, mining, and commercial statistics of, at least, the more populous counties and towns in the State; and shall be thankful to our friends in different parts of the country if they will furnish us with the facts relating to their respective locations. By publishing these statistics in the Western Journal they will be preserved in a convenient form for reference and will constitute a valuable portion of the history of the State.

The increase of population in Missouri from 1848 to 1850 was 93,936, or nearly sixteen per cent., and taking into consideration the large emigration to California during that period, it will fall little below that of the most rapidly growing of the new States.

It is worthy of observation that the ratio of increase in the free and slave population has been almost exactly the same.

Our tables for 1850 do not show the number of free persons of color; these amounted to 1,779 in 1848; nearly one half of whom, say 868 were found in St. Louis county.

	1850.			1848.		
Counties.	*Slave.*	*Free.*	*Total.*	*White.*	*Slave.*	*Total.*
Adair	53	2,298	2,351	2,172	39	2,217
Andrew	661	8,773	9,434	7,786	492	8,282
Atchison	30	1,648	1,678	1,877	24	1,905
Audrain	457	3,051	3,508	2,522	336	2,860
Barry	150	3,322	3,472	2,885	135	3,020
Bates	141	3,528	3,669	3,320	157	3,494
Benton	469	4,557	5,026	4,651	474	5,137
Boone	3,666	11,315	14,981	11,268	3,572	14,867
Buchanan	902	12,074	12,976	10,733	716	11,456
Butler	53	1,563	1,616			
Caldwell	136	2,181	2,317	1,986	130	2,116
Callaway	3,907	9,921	13,828	9,259	3,925	13,216
Camden	130	2,208	2,338	2,855	192	3,047
Cape Girardeau	1,675	12,241	13,916	10,580	1,456	12,057
Carroll	621	4,827	5,448	3,719	531	4,252
Cass	478	5,612	6,090			
Cedar	82	3,278	3,360	3,081	85	3,167
Chariton	1,786	5,765	7,551	5,497	1,568	7,086
Clark	504	5,023	5,527	3,709	474	4,191
Clay	2,742	7,590	10,332	6,882	2,530	9,426

POPULATION OF MISSOURI.—*Continued.*

Counties.	1850.			1848.		
	Slave.	*Free.*	*Total.*	*White.*	*Slave.*	*Total.*
Clinton	439	3,347	3.786	2.950	354	3.312
Cole	1,037	5,717	6.754	5.673	923	6.609
Cooper	3,100	9,868	12.968	9.509	2.900	12.493
Crawford	285	6,112	6.397	4.517	197	4.744
Dade	269	3,978	4.247	3.616	252	3.876
Dallas	88	3,560	3.648	3.349	129	3.478
Davis	241	5,053	5.294	4.307	213	4.524
De Kalb	65	2,010	2.075	1.785	56	1.241
Dodge	11	1,070	1.081			
Dunklin	15	1,217	1.232	1.010	18	1.032
Franklin	1,460	9,562	11.022	9,927	1.275	11.231
Gasconade	114	4,886	5.000	4.108	111	4.219
Gentry	50	4,197	4.247	3.830	55	3.840
Greene	1,233	11,776	13.009	9.518	1.059	10.583
Grundy	149	2,856	3.005	2.559	138	2.699
Harrison	13	2,434	2.447	2.337	13	2.350
Henry	672	3,380	4.052	3.079	597	3.683
Hickory	185	2,145	2.330	1.892	177	2.070
Holt	127	3,828	3.955	2.712	89	2.883
Howard	4,891	9,080	13.971	8.840	4.201	13.088
Jackson	2,970	11,031	14.001	9.776	2.804	12.618
Jasper	213	4,010	4.223	3.522	165	3.692
Jefferson	512	6,416	6.928	4.725	391	5.018
Johnson	879	6,588	7.464	5.788	754	6.554
Knox	266	2,630	2.896	2.202	224	2.427
Laclede	140	2,358	2.498			
La Fayette	4,614	9,077	13.691	7.732	3.217	10.986
Lawrence	249	4,602	4.851	4.316	236	4.552
Lewis	1,205	5,372	6.577	4.806	1.073	5.884
Lincoln	2,027	7,395	9.422	7.255	1.899	9.161
Linn	380	3,680	4.060	3.491	378	3.873
Livingston	308	3,941	4.249	3.535	281	3.818
Macon	303	6,263	6.566	4.661	212	4.873
Miller	189	3,645	3.834	2.845	130	2.957
McDonald	83	2,153	2.236			
Madison	696	5,305	6.001	4.106	664	4.787
Marion	2,843	9,398	12.241	7.971	2.258	10.286
Mercer	14	2,676	2.690	2.560	27	2.602
Mississippi	746	2,377	3.123	2.078	592	2.679
Moniteau	566	5,439	6.005	5.016	583	5.607
Monroe	2,048	8,495	10.543	7.691	1.826	9.557
Morgan	453	4,192	5.648	3.737	436	4.204

POPULATION OF MISSOURI.—*Continued.*

Counties.	1850.			1848.		
	Slave.	*Free.*	*Total.*	*White.*	*Slave.*	*Total.*
Montgomery...	1,037	4,455	5,489	4,132	931	5,075
New Madrid ...	1,173	4,060	5,233	3,516	1,192	4,711
Newton.....	241	4,029	4,270	5,656	282	5,974
Nodaway	70	2,048	2,118	2,356	64	2,420
Oregon	18	1,414	1,432	1,174	15	1,205
Osage.....	271	6,434	6,705	5,513	293	5,806
Ozark.....	15	2,281	2,296	2,200	14	2,214
Perry.....	793	6,427	7,220	5,417	776	6,212
Pettus.....	884	4,259	5,143	3,758	767	4,532
Pike.....	3,275	10,334	13,609	9,093	2,980	12,092
Platte	2,798	14,131	16,929	12,919	2,173	15,117
Polk.....	368	5,817	6,185	5,354	329	5,701
Pulaski	113	3,897	4,010	3,743	112	3,859
Putnam.....	10	915	929	1,951	38	1,989
Ralls.....	1,368	4,783	6,151	4,431	1,337	5,827
Randolph.....	2,156	7,284	9,440	6,787	2,006	8,811
Ray	1,516	8,886	10,402	8,156	1,448	9,626
Reynolds	25	1,824	1,849	1,542	31	1,573
Ripley.....	86	2,744	2,830	1,578	66	1,657
St. Charles.....	1,949	9,505	11,454	9,173	1,814	11,011
St. Clair.....	448	3,108	3,556	2,823	430	3,255
St. Francois ...	1,321	4,285	5,606	3,034	531	3,565
Ste. Genevieve	616	4,699	5,316	3,836	596	4,887
St. Louis*	5,967	99,097	105,064	68,196	4,327	73,391
Saline.....	2,719	6,124	8,843	4,855	2,098	6,96[illegible]
Schuyler.....	55	3,232	3,287	3,513	24	3,537
Scott.....	393	2,789	3,182	2,524	275	2,81[illegible]
Shannon.....	9	1,193	1,202	1,056	6	1,06[illegible]
Shelby.....	598	3,754	4,252	3,336	434	3,781
Stoddard.....	50	4,239	4,289	3,916	55	3,971
Sullivan	88	2,895	2,983	2,356	66	2,423
Scotland.....	151	3,633	3,784	2,777	119	2,896
Taney.....	99	4,275	4,375	3,642	87	3,729
Texas	42	2,271	2,313	1,710	24	1,734
Warrren	935	4,926	5,861	4,134	779	4,491
Washington....	1,077	7,738	8,815	7,433	1,083	8,539
Wayne.....	260	4,158	4,418	4,504	334	4,841
Wright.....	82	3,305	4,387	3,563	76	3,639
Total.....	87,769	595,140	682,907	510,435	76,757	588,971

* St. Louis City proper.....77,945
Suburbs..... 4,681
City Total.....82,626

STATISTICS OF PLATTE COUNTY.

POPULATION.

Whites	13.996
Slaves	2.798
Total	16,798

AGRICULTURAL PRODUCTS.

Hemp grown in 1849, tons,	4.344
Corn " " barrels,	369.385

SCHOOLS.

Acadamies	4

In relation to Common Schools, we take the following extract from Mr. Lewis' statement:

"There are in Platte 1784 pupils in regular attendance. 64 Common School districts, 55 of which have teachers, at about $25 per month."

Whole amount received from Public Funds for School purposes, $25,000.

CHURCHES.

Denomination.	*Value.*
Baptist, O. S., in Weston,	$500
" " Lee Township	500
" " Pleasant Grove	500
" " Todd's Creek,	1000
" Missionary, (2)	4000
Presbyterian, N. S., in Weston	4000
" " "	2000
Methodists (3 Churches)	6000
Christian, Salem	800
" Camden Point	1000
" Pleasant Union,	500
Roman Catholic, Weston,	3000

VALUE OF PROPERTY.

Real Estate,	$4,923,338
Farming Utensils	192,053
Live Stock	647,244
Farms, about	1600

TAXES.

State Tax,	4,034
County Tax	6,052
Total	$10,086
Paupers	12
Annual cost of supporting same	600
Criminals convicted	4
Deaths	135

EXPORTS FROM WESTON, PLATTE COUNTY, MO. IN THE YEAR 1850.

Hemp, tons,	2905
Bacon, casks,	785
Pork, barrels,	1036
Lard, Tierces,	847
" Barrels,	120
Flour, sacks,	5955
" Barrels,	635
Wheat, sacks,	1508
Tobacco, hogsheads,	34
Corn, bushels	25,097
Beef, barrels,	93
Tallow, barrels,	8
Hemp Seed, sacks,	1800
Flax " "	195
Bran, sacks,	575
Dry Hides,	2620
Bees wax, barrels,	16
Fur, bales,	17
Beans, bushels	360

NUMBER OF STEAMBOAT ARRIVALS AT WESTON FROM 1845 TO 1850 INCLUSIVE.

1845.

First arrival (John Golong,) Feb. 17th.
Last arrival (Tributary,) Nov. 19th.

Whole number of arrivals,	118
Number that went to places above,	31

1846.

First arrival (John Golong,) March 7th.
Last arrival (Amelia,) November 19th.

Whole number of arrivals,	132
Number that went to places above	36

1847.

First arrival, (Amelia,) February 28th.
Last arrival (Cora,) November 20th.

Whole number of arrivals	182
Number that went to places above,	47

1848.

First arrival, (Tamerlane,) February 23d.
Last arrival (Cora,) November 22d.

Whole number of arrivals	193
Number that went to places above	68

1849.

First arrival (Amelia,) March 11th.
Last arrival (Highland Mary,) Nov. 28th.
Whole number of arrivals,.....216
Number that went to places above,.....146

1850.

First arrival (St. Ange,) February 24th.
Last arrival (Mary Blane,) Nov. 30th.
Whole number of arrivals.....226
Number that went to places above,.....160

HOWARD COUNTY STATISTICS.

From the Howard County Banner.

The following official abstract of the census of our County, is kindly furnished us by the Assistant Marshall B. C. Brown, Esq., who has completed and forwarded the copies required by law. The period for which the census has been taken, is one year commencing from the first of June, 1849.

Number of families		1728
"	Dwellings,	1718
"	Free population,	9080
"	Slave "	4890
"	Deaths,	169
"	Farms,	1476
"	Manufactories,	34
"	Churches	19
"	Weekly Newspapers,	3
"	Paupers,	7
"	Schools,	49
"	Teachers,	49
"	Pupils,	2058
Amount of public school fund,		$2074
"	State tax,	$8277
"	County tax,	$4383
Value of Real Estate,		$3,790,081

VALUE OF THE DOMESTIC EXPORTS OF THE UNITED STATES.

SUMMARY STATEMENT OF THE VALUE OF THE EXPORTS OF THE GROWTH, PRODUCE AND MANUFACTURE OF THE UNITED STATES, DURING THE YEAR COMMENCING ON THE 1ST DAY OF JULY, 1849, AND ENDING ON THE 30TH OF JUNE, 1850.

PRODUCTS OF THE SEA.

Fisheries—	
Spermaciti Oil	$788,794
Whale and other fish oil	672,640
Whale bone	646,483
Spermaceti candles	260,107
Dried or smoked fish	365,349
Pickled fish	91,445
	$2,824,818

PRODUCTS OF THE FOREST.

Wood—	
Staves, Shingles, boards, hewn timber	$2,437,079
Other lumber	107,827
Masts and spars	52,109
Oak bark and other dye	205,771
Manufactures of wood	1,948,752
Naval stores, tar, pitch, rosin, and turpentine	1,142,713
Ashes, pot and pearl	512,870
Ginseng	122,916
Skins and furs	852,466
	$7,442,503

PRODUCTS OF AGRICULTURE.

Of animals—	
Beef, tallow, hides & horned cattle	1,605,608
Butter and cheese	1,215,463
Pork, (pickled) bacon, lard, live hogs	7,550,287
Horses and mules	139,194
Sheep	15,753
Wool	22,778
	$10,549,383
Vegetable food—	
Wheat	$643,745
Flour	7,098,570
Indian corn	3,892,193
Indian meal	760,611
Rye meal	216,076
Rye, oats, and other small grain and pulse	121,191
Biscuit or ship bread	334,123
Potatoes	99,333
Apples	24,974
Rice	2,631,557
	$15,822,373
Cotton	71,984,616
Tobacco	9,951,023
Hemp	5,633
All other agricultural products—	
Flaxseed	4,040
Hops	142,692
Brown Sugar	23,037
	$169,769

MANUFACTURES.

Wax	118,055
Refined Sugar	285,056
Chocolate	2,260
Spirits from grain	48,314
Spirits from molasses	268,290
Molasses	14,137
Vinegar	11,182
Beer, ale, porter and cider	52,251
Linseed oil and spirits of turpentine	229,741
Household furniture	278,025
Coaches and other carriages	95,722
Hats	68,671
Saddlery	20,893
Soap and tallow candles	664,963
Snuff and tobacco	648,832
Leather, boots, and shoes	193,598
Cables and cordage	51,357
Gunpowder	190,352
Salt	75,103
Lead	12,797
Iron—pig, bar, and nails	154,210
Castings	79,318
All manufactures of	1,677,792
Copper and brass, and copper manufactures	105,060
Medical drugs	334,789
	$5,680,768
Cotton piece goods—	
Printed and colored	606,631
Uncolored	3,774,407
Thread and yearn	17,405
All manufactures of	335,981
	$4,734,424
Flax and hemp—	
Cloth and thread	1,183
Bags and all manufactures of	10,593
Wearing apparel	207,632
Earthen and stone ware	15,644
Combs and buttons	23,987
Brushes of all kinds	2,827
Billiard tables and apparatus	2,295
Umbrellas and parasols	3,395
Morocco and other leather not sold by the pound	9,800
Fire-engines and apparatus	3,140
Printing-presses and type	29,242

Musical instruments	21,634	Artificial flowers and jewelry	45,283
Books and maps	119,475	Trunks	10,370
Paper and stationary	99,696	Brick and lime	16,348
Paints and varnish	67,,97		
Manufactures of glass	136,682		$13,374,059
Manufactures of tin	13,590	Coal	167,090
Manufactures of pewter and lead	22,682	Ice	107,018
		Articles not enumerated—	
		Manufactured	3,869,071
Manufactures of marble and stone	34,510	Other articles	679,556
Manufactures of gold and silver, and gold leaf	4,533	Grand total	$136,946,912
Gold and silver coin	2,046,679		

COMMERCE OF SAN FRANCISCO.

Amount of gold dust and coin exported under the Collectorship of Mr. Harrison, from Sept. 1, 1849, to November 11, 1849	$2,094,120
Amount exported under Colonel Collier, from Nov. 12, 1849, to December 13, 1850	28,966,035
Total of dust and coin cleared at Custom-house	$31,060,155

TONNAGE ARRIVED.

	American.	Foreign.	Total.
From Nov. 12, 1849, to March 31, 1850	24,252	51,297	75,549
From April to June 30, 1850	28,693	45,868	74,561
From July to September 30, 1850	30,029	51,349	81,378

ARRIVALS AND CLEARANCES FROM DECEMBER 1ST TO 13TH.

	American vessels.	Foreign vessels.	Passengers.
Arrived	31	24	627
Cleared	52	19	1,435
Total	83	43	2,162

Amount of duties received in November $174,680 21

IMPORTATIONS.

	American.	Foreign.	Total.
From Nov. 12, 1849, to March 31, 1850,	$58,917 40	$1,379,447 75	$1,438,365 15
From April 1, to June 30, 1850,	343,976 70	934,961 35	1,278,938 05
From July 1, to September 1, 1850,	394,381 00	1,037,553 35	1,431,934 55
Total	$797,275 10	$3,351,962 45	$4,149,237 55

IMPORTS FROM CANADA INTO THE PORT OF BUFFALO.

The following table, from the books of the Custom-house, Buffalo, shows the total value of imports from Canada into that district, for the year ending December 31st, 1850, and also, the quantity and value of merchandise bonded, and duties paid on the same.

Period.	Value.	Duty paid.
Value of imports, 1st quarter, 1850	$17,812 00	$2,139 03
" " 2d " "	90,459 00	18,025 81
" " 3d " "	110,600 00	27,218 75
" " 4th " "	84,168 00	20,266 36
Total	$307,039 00	$67,649 95

BONDDED IN 1850.

	Value.	Duty secured.
19,244 barrels flour	$62,588 61	$12,517 72
66,001 bushels wheat	44,198 57	8,839 71
752 barrels ashes	15,516 93	3,103 38
34,646 pounds butter	2,788 37	557 67
18,810 pounds wool	3,566 85	1,070 06
14,261 fur skins	2,327 89	232 79
Total	$130,987 22	$26,321 33

HEMP GROWING IN IOWA.

From the Burlington, Iowa, Telegraph.

Mr. MORGAN: In your Weekly of the 22d inst., I find an article headed "Flax Growing in the West," originally from the N. Y. Tribune, on flax, hemp, &c. And having been engaged for many years in the manufacture of rope and cordage of all kinds, and from the difficulty often experienced in procuring from St. Louis such an article of hemp as I needed, I have made several attempts during the last eleven years at becoming independent of that market, (and of Congress, too, in not clearing the rapids,) and I now declare myself independent of both. My struggle lasted thus long on account of my preconceived opinion that rich timber land, or the river sandy bottom were the only soils in which hemp could be raised to advantage; and in these soils I kept sowing for nine years with but little success. I believe, however, that rich

bottom land, not too sandy, is admirably adapted to hemp growing —and it was only by accident that I discovered the genuine, almost California placer. In 1849, I could procure but three acres of timber land convenient, which I sowed; and having four bushels of seed left, I procured from Rev. A. Leonard, three acres more in the lot with his nursery, which I sowed on the third of June, (at least twenty days too late,) and from which I did not anticipate much. But to my great surprise, it yielded about fifteen hundred lbs. to the acre, while that sown in the bottom I never cut, it not being worth it. You know, sir, that Mr. Leonard's is dry, upland prairie; it had been in potatoes the year before; the bottom land had been in small grain. Being now converted from my former prejudices, I last year on the adjoining farm, formerly the Hildreth farm, but now owned by J. T. Kaster, sowed nearly eight acres, on which I put ten bushels of seed about the 18th of May; and from what I have already broke, I am satisfied that it will yield over fifteen hundred lbs. per acre. This land had never been tilled before, but was broke the previous summer, and, as you, I presume, know, is high, dry, level prairie. I ploughed it deep and harrowed it well, so that it was quite loose and mellow. I had hoped to have procured a hemp cutting machine, such as is used in Illinois on their prairies, but did not, and had to have it cut with the old Kentucky Hooks. I had a practical hemp grower to cut it, who declared, that as it stood in the field before being cut, in Kentucky, it would be worth five hundred dollars! Only think of that! Is not that an Iowa placer?

There is one advantage which Iowa possesses over Missouri or Kentucky: as soon as hemp is cured, it may be spread out to dew rot, so that it will be rotted and ready to break before winter; as it will not sunburn here when spread out in September or October, and the farmer may break when he pleases. I have kept a strict account of its cost, which, for rent, seed, ploughing, harrowing, cutting, binding, spreading out to rot and lifting of the grass, costs $15; dressing by hand on common brakes, $20; so that to make one ton of hemp ready for market will cost $35. Well, sir, by reference to the prices current, you will find that the average price for eighteen years has been $127 per ton; eight years ago it was worth but $50, but ever since that time I have had to pay, on an average, $130 per ton for dew rotted hemp.

Many, seeing the crop which I raised, say if they had seed they would try a few acres. The seed can easily be obtained at St. Louis, and any of our merchants will furnish it if requested. Others say if they thought they could find a market for it, they would raise it. To all such persons I would say, that any of our commission houses will make advances upon good hemp, as it is always a ready cash article in St. Louis. In fact, I can see nothing to hinder hemp from becoming one of the staples of Iowa—the lint is the best I ever saw, (Russian excepted;) the climate and soil well

adapted to its growth; the labor will not interfere with the farmer's other crops; and if on our plank roads, he can load $125 (one ton) on one wagon and with a span of horses drive to Burlington, where Peasley, Parsons, Mauro, or Wright will advance on it liberally; or he can forward it to any market desired, on opening of navigation. But, look here! What a prospect that Rail Road opens to view for this article! All the Eastern markets will then be ours—where our dew rotted hemp commands $175 per ton. I ask, you, then, sir, what crops are the most profitable to raise, corn, wheat or hemp? Look at the item of marketing alone—one comes ten miles with a load of corn, he may have to haul some $7 50 if corn is in demand—the other has to haul the same distance, with a load of hemp, certain of $100, perhaps $125.

But, sir, I say to all, that any attempt to raise hemp on wet, poor, foul land, will prove an entire failure.

T. M. WILLIAMS.

OHIO AND MISSISSIPPI RAILROAD—MISSISSIPPI AND ATLANTIC RAILROAD.

The General Assembly of Illinois, at its recent session, opened the way for the establishment of a system of internal improvement calculated, when completed, to affect in no small degree the present system of commerce in every part of the nation.

The Central Railway, connecting by its branches the northern lakes and the upper Mississippi with the Gulf of Mexico is, beyond all question, when considered in all its bearings, the most important work that has been, or ever can be projected east of the Mississippi. Cutting, at right angles, through about ten degrees of latitude, commanding the products of the tropics through the Gulf, at one end, and, those of the north, as far as that region is habitable, through the lakes at the other, it will constitute a more complete thoroughfare for exchanging the commodities of all the different climates than any other route of equal length on the globe. There may be commodities however, which will not bear the cost of carriage through the entire route at the present rate of railway transportation; but the quantity excluded upon this ground will bear but a very small proportion to the quantity received by the way, and exchanged at different points on the line. When we take into consideration the great extent of our mineral resources, and, that we possess the means and may command the skill required to produce all the products of art now produced in the eastern States, and in Europe, it is obvious that when the central railway shall have been completed a rapid change will take place in the

great commercial current of all that region between the Alleghanies and the Mississippi.

The Ohio and Mississippi Railway connecting Cincinnati and St. Louis is another part of that system to which we have alluded. This is a section of the great central route extending from Baltimore to the western boundary of Missouri, and, deviating but slightly from a direct east and west line. Passing through the great central cities, and, dividing the population of the Union into parts nearly equal on the north and south sides, it must be regarded as the most important east and west line on the continent.

We are aware that this work is not regarded with favor by some of the inteligent citizens of St. Louis; but we are fully persuaded that no railway that can be projected to commence at this city can be more important or necessary to the continuance of its growth and prosperity. It constitutes the main trunk from which must diverge all the branches connecting St. Louis with the southern States, east of the Mississippi.

All the principal cities on the Gulf and Atlantic from Mobile to Baltimore will, in time, be connected with this line by railways; and thus a communication will be opened between St. Louis and that great division of the United States lying between the Mississippi and the Potomac, bounded on the north by the Ohio; a region with which we have at present no commerce, and, but little social intercourse, except the small portion adjacent to the Mississippi and its tributaries.

It would be difficult to specify the precise nature of the commerce which would be carried on between St. Louis and the southern States; but, were such a system of railways now complete it would, in our opinion, be the means of doubling our commerce in a few years.

But those of our citizens who do not see the subject in this light may find an argument, nearer home, sufficiently cogent to convince them of the importance of encouraging the construction of the Ohio and Mississippi railway. It is now generally conceded that the central road from Cairo to Chicago and Galena will be completed in a few years; and we have been informed that it will be commenced and prosecuted with vigor during the present season. Now, unless St. Louis forms a connection with this route, it is obvious that an important branch of her trade will be diverted to other markets.

The apprehension felt by some of our citizens that St. Louis would be absorbed by Cincinnati were these two cities connected by a railway is, in our estimation totally groundless. Cincinnati and St. Louis may be regarded as rivals, but not competitors. Not less than three cities, larger than are either of these, will grow up between them, though perhaps not in a direct line, before the end of the present century; and these intermediate cities will only progress the more rapidly if the Ohio and Mississippi railway

should not be constructed. A distance equal to two thirds of that between St. Louis and Cincinnati embraces the three largest cities in the Union; and it is not less absurd to suppose that New York will absorb Philadelphia and Baltimore, as a consequence of their railway connections than that a railway between Cincinnati and St. Louis will in any way retard the growth and commercial importance of the latter.

The charter granted by the Illinois legislature is as liberal as could be reasonably desired, with the exception that it might, probably, have been more acceptable had the company been allowed the privilege of commencing the work at such points as they might deem best instead of being compelled to commence at Illinoistown and at the crossing of the central railway at the same time, and proceed eastward.

We have noticed these two great lines as constituting the basis of a system; and it is in that light that we view them when we speak of them as the most important enterprises that have been projected east of the Mississippi.

The Mississippi and Atlantic Railway designed as a continuation of the line from Philadelphia, by the way of Pittsburg, Indianopolis and Terre Haute, to the Mississippi constitutes the casis of another great system; and would, were both lines now dompleted, be more in demand perhaps than the Cincinnati route; but we are persuaded that, in time, the latter will be found the more important of the two.

A company was organized last summer under the provisions of the general railroad law of Illinois with a view to the construction of a railway from Terre Haute to Illinoistown. In pursuance of this organization the route was surveyed, stock subscribed for, and right of way obtained for the location of a considerable portion of the route; but the legislature having refused to sanction the termini, the prosecution of the work will, as we suppose, be suspended until a judicial decision can be had on the right of the company to proceed.

It is not our province to call in question the policy of a neighboring State. If the route from Terre Haute to Alton is calculated to promote the interest of the State of Illinois more than one from Terre Haute to Illinoistown we have no right to complain of the policy of that State. She must be allowed to judge for herself on all matters touching her own system of internal improvements. If however the Mississippi and Atlantic Railroad Company should be allowed to proceed with their work under their present charter we are assured that this enterprise will be prosecuted with vigor; and in that case the two great central systems of railways, east of the Mi-sissippi, will be brought into connection with the Pacific Railway from St. Louis to the western boundary of the State of Missouri. In a national point of view such a con-

nection is greatly to be desired; and we can scarcely doubt that in time such a connection will be established.

Having discussed the advantages of plank roads, in several numbers of the Western Journal, we need not reiterate the arguments heretofore adduced in their favor. It affords us no small degree of pleasure to observe that the people in almost every part of the State have been awakened to the utility of this system of improvement; and we regard the action of the legislature in passing a general law embracing this subject as well timed, and highly creditable to its inteligence.

The law is drawn up with great judgment: and we recognize in all its features the sound and discriminating mind of the chairman of the committee of Internal improvement, the Hon. Thos. Allen, to whose labors the State is, in a great degree, indebted for its present flattering prospect of improvement.

AN ACT TO AUTHORIZE THE FORMATION OF COMPANIES TO CONSTRUCT PLANK AND McADAMIZED ROADS.

Be it enacted by the General Assembly of the State of Missouri, as follows:

§ 1. Any number of persons may form themselves into a corporation for the purpose of constructing and owning a Plank Road, or McAdamized road, or a road composed partly of plank, and partly of McAdamizing, used as a covering surface, by complying with the requirements of this act.

§ 2. They shall sign articles of association, setting forth the name which they assume, the beginning, termination, and route of the road they propose to construct, and its general plan; the amount of capital stock of the company; the amount of each share; the names and residence of the subscribers; and the amount of stock taken by each; the term of years to which the existence of the association shall be limited, which shall not exceed thirty, and the number of directors proposed to be elected, which shall not be less than three, nor more than nine.

§ 3. Whenever the stock subscribed, amounts to one thousand dollars per mile of the proposed road, a copy of the article of association, sworn to by at least two of the subscribers thereto, shall be filed in the office of the Recorder of each county, through which the road is intended to pass.

§ 4. Any three or more of the stockholders may call a meeting for the purpose of electing directors, who shall be chosen by a ma-

jority of the stockholders present, who shall for that purpose each have one vote only, and the directors so chosen shall hold their offices for one year, and until their successors are duly elected and qualified; notice of the first election for directors shall be given by two weekly publications in some newspaper of general circulation, along or near the route of said road, or if no paper be published in the county, then by putting up printed notices at the court house door, and at the door of each post office near the line of the proposed road, specifying the time and place of holding the election.

§ 5. The directors may determine the particular manner of construction, so as to secure and maintain a smooth and permanent road, the track of which shall be made of plank or timber, or partly of both, or of McAdamizing, so that the same shall form a hard and even surface.

§ 6. The directors of said association shall proceed to survey and locate said road, and may with the consent of the county court of the proper county, locate it over and upon any State or county road or highway, and thereupon, such State or county road or highway, or such portion thereof, as may be occupied and appropriated by said company, shall become the property of said company, for the purpose of making and maintaining said road, and the gates, and toll-houses thereon. And the county courts of the several counties of this State, are hereby authorized to consent to the appropriation and occupation of any such State or county road, over and upon which any such company may locate any such road.

§ 7. Any such company or association may take releases and conveyances of the lands necessary for the construction of any such road of any and all persons over or through whose lands the road may be located, and any such releases and conveyances may be made and executed by any infant, femme covert, guardian, executor or administrator, and shall be valid and effectual in law, by obtaining the consent of the county court thereto, or the consent of the court having probate jurisdiction. For the purpose of constructing said road, it shall be lawful for such company by their agents and servants, to enter upon any lands to make surveys, estimates and locations, and to take from the land occupied by said road, any stone, gravel, timber, or other materials necessary to construct such road, and the necessary bridges thereon.

§ 8. If any person owning lands over and upon which such road shall be located, shall refuse to relinguish the same for the use of said road, and no satisfactory contract can be made by such company with such owner, it shall be lawful for such company to notify some justice of the peace of the county, and such justice shall thereupon cause the owner of such land, if a resident of the county, to be summoned to appear before him on a day to be named in said summons, and within ten days from date of the service thereof, and if the parties do not then agree about the price of said

land, said justice shall issue a venire for summoning before him a jury of five disinterested land owners of the county, to be selected by said parties if they can agree to do so, if not then said justice, and such jury after having taken an oath or affirmation, faithfully and impartially, to assess the damages, if any, shall view the lands upon which damages are claimed, and shall determine the amount of the same, duly considering the advantages of said road to said owner, and shall make report thereof to said justice, upon which he shall enter judgment, and from which judgment, either party may appeal to the circuit court in like manner, as is now provided by law in other cases.

§ 9. If the owner be a minor, insane person, or reside out of the county, where the land may be situate, such justice shall enter upon his docket an order of publication, and cause three copies thereof, to be put up at three of the most public places in the township, where the land lies, giving notice of the time and place of the meeting of said jury, to make such assessment of damages, and if no person appear for such minor, insane person, or non-resident of the county, such justice shall appoint some disinterested person to act on behalf of such absentee, and he shall then proceed as in other cases, and in all cases, costs shall be awarded in the discretion of the jury.

§ 10. If the person or persons entitled to receive the amount of damages assessed, cannot be found after all proper search, the company shall prove such fact to the county court, and the said court shall upon such proof, order the money to be paid into the county treasury, subject to be paid over to the lawful owner or owners on demand, but in no case shall the county be bound to pay interest on money so deposited.

§ 11. It shall be lawful in all such cases for the company by their agents, to enter upon the premises, and take and hold the lands in respect to which the verdict was rendered as though payment had been made to the owner or owners, provided twenty days shall have elapsed after judgment has been entered up.

§ 12. The courts having charge of probate business, may in their discretion order administrators or executors of estates or guardians of minors, to take for the benefit of such estates or minors stock in any company, organized under this act in cases where the road is to run through the lands of the testator or intestate, or the lands of minor children, when such court shall be of opinion, that the making of said road would enhance the value of the land of such estates of such minors, and would not operate to the injury of creditors or others, provided the amount of stock so taken, shall not exceed the amount necessary to construct the road through such lands.

§ 13. If such company shall require for the construction or repairs of said road, any stone, gravel, or other material from the land of any person adjoining to, or near said road, and cannot

contract for the same with the owner thereof, such company may proceed in like manner, to have the value of such materials assessed, as is above provided for assessing the value of lands; and in every such case of lands and materials, such company may take possession of and use the same immediately after having paid or tendered to such claimant the amount if any, so assessed, or upon payment of said sum, for the use of said owner. But such jury in assessing such damages, shall not consider the advantages of the road to the owner of such materials.

§ 14. If any road after it is completed, or any part thereof, shall be suffered to be out of repair, so as to be impassable for the space of two months, unless when the same is being repaired, the company shall be liable to be proceeded against by *quo warranto*, and if such company shall suffer the road to be out of repair to the injury, hindrance and delay of travellers for an unreasonable time they shall have no right to collect tolls thereon, until the same is again repaired.

§ 15. The directors may require payment from subscribers to the capital stock, of the sums subscribed by them at such times, and in such proportions, and on such conditions as they shall deem proper under the penalty of the forfeiture of their stock, and of all previous payments thereon, or under such other penalty or forfeiture, as such company may by its by-laws prescribe; and they shall give notice of the payments thus required to be made in some newspaper of general circulation, in the county or counties in which the road may be located, or by having personal service of a notice in writing, that such payments will be required.

§ 16. The shares of the corporation shall be deemed personal property, and shall be transferable as may be prescribed by the by-laws; and any person becoming a stockholder by assignment of stock, shall succeed to all the rights and liabilities of his assignor; and the directors may provide for any increase of the capital stock, that they may deem advantageous to the corporation.

§ 17. Whenever five consecutive miles of such road shall have been completed, the directors of such company may erect toll-gates at such points, and at such distances from each other, as they may deem proper, and exact toll from persons travelling on such road, not exceeding the following rates: For every sled, sleigh, carriage or vehicle, drawn by one animal, one and a half cents per mile; and one cent in addition for each additional animal; for every horse and rider, or led horse, one cent per mile; for every twenty sheep or hogs, two cents per mile; and for every twenty head of neat cattle, mules or asses, five cents per mile, and in that proportion for any less number.

§ 18. The following persons shall be exempt from paying toll: Persons going to and from religious meetings; funeral processions; troops in actual service; civic or military processions on the fourth of July and the anniversary of Washington's birth day; persons

going to or returning from elections at which they are entitled to vote; farmers or their work hands going or returning from their farms on ordinary business; all persons going to or returning from any grist mill, or blacksmith's shop, where they ordinarily get their grinding or blacksmith's work done, shall be exempt from the payment of toll at one gate only, within five miles of such person's residence, when he is going and returning from such mill or shop, for the express purpose of getting grinding or blacksmith's work done; but this last exemption shall apply only to such parts of a plank road or McAdamized road, as have been or shall be made on a public traveled highway, not theretofore a turnpike.

§ 19. Persons living within one mile of any gate shall be perpermitted to pass the same at half the usual rates.

§ 20. If any person or persons using any part of said road, shall, with intent to defraud such company, pass through any private gate or bars, or along any other ground near said road, to avoid any toll-gate, or shall falsely represent himself or herself to any toll gatherer, as entitled to exemption from paying toll, or shall make an untrue statement as to the distance he or they shall have traveled, or intend to travel on the road, or shall practice any fraudulent means, and thereby lessen or avoid the payment of tolls; each and every person concerned in such fraudulent practice shall, for every such offence, forfeit and pay to such company, the sum of five dollars to be recovered by such company in an action of debt before any justice of the peace of the county, where the offender may be found.

§ 21. If any toll-gatherer or gate-keeper on said road shall unreasonably detain any person or passengers after the toll has been paid or tendered, or shall demand or receive any greater toll than is by this act allowed, he shall for every such offence, forfeit and pay a sum not exceeding ten dollars, to be recovered before any justice of the peace, having jurisdiction by the party aggrieved.

§ 22. Every such company or association shall forfeit all the privileges herein granted, if within two years from the time of filing their articles of association with the recorder of the county; they shall not have commenced the construction of their road, and expended at least ten per cent. of their capital stock, and said road shall be commenced within four years of said filing of such articles. And within six months after the completion of such road, the directors shall report that fact, together with the costs of its construction to the Secretary of State.

§ 23. Such company may make and publish all such by-laws as they may deem proper, not inconsistent with any law of this State, in order to regulate the travel upon such road, and the rules to be observed by persons in meeting or passing with teems and vehicles, and all other matters which may be deemed for the welfare of such company. Any person violating any laws made by such company, shall be fined not exceeding twenty dollars, to be collected before

any justice of the peace, and shall moreover be liable for any damages incurred by such transgression.

§ 24. Any road overseer, or any number of respectable citizens, not less than fifteen in number, who shall be of the opinion that the location of any toll-gate is injurious to the public interest, may on ten days notice to the President or Secretary of the company, apply to the county court of the county, within which such gate is situated for an order to change the location of such gate, and the said court shall have full power after hearing the parties to alter the same at the expense of the company, in case of their refusal or neglect to comply with the requirements of the court.

§ 25. The liabilities of any company shall not exceed at any one time 50 per cent. of the amount of capital paid in, and if they shall at any time exceed this amount, each stockholder consenting thereto, shall become individually liable for such excess in addition to the liability as stockholder.

§ 26. If any company formed under this act dissolves, leaving debts unpaid, suits may be brought against any person or persons who were stockholders at the time of such dissolution, without joining the company in such suit, and if judgment be rendered and execution satisfied, the defendant or defendants may sue all who were stockholders at the time of dissolution, for the recovery of the portion of such debt for which they were liable, and the execution upon the judgment shall direct the collection to be made from property of each stockholder; and if any number of stockholders, defendants in the case, shall not have property enough in the county to satisfy his or their portion of the execution, then the amount of deficiency shall be divided equally amongst all the remaining stockholders, and collections made accordingly, deducting from the amount a sum in proportion to the amount of stock owned by the plaintiff at the time the company dissolved.

§ 27. If any person shall wilfully do or cause to be done any act or acts whatever, whereby any building, construction or work of any company formed under this act, shall be injured or destroyed, the person or persons so offending shall forfeit and pay to such company ten dollars, and double the amount of damages sustained by means of such offence.

§ 28. The county court of any county, in which the road of any company as aforesaid is situated, may subscribe to the stock of such company, an amount not exceeding one-half the cost of construction, and may, if necessary, issue the bonds of the county to pay for the same, bearing interest at a rate not exceeding seven per cent., and such county shall be in law as any other stockholder, as hereinbefore provided.

§ 29. The county courts may in cases where any county road has been partially improved, or where a road has been improved only a part of the length thereof, on proposition of any company formed under this act, make an agreement with such company to

put said road as stock in said company at a fair valuation, and in such case the proceeding shall be entered on the records of said court, and a transfer of the right of the county to such road conveyed to said company by instrument in writing, signed by the presiding justice, and attested by the clerk of the court, under seal of said court, after which said company shall proceed in all respects with said road, as if the same had originally been constructed by said company.

§ 30. No plank road or McAdamized road authorized by this act, shall be made on the roadway of any turnpike company without the consent of the owners thereof, or of the county court if the same be a county road, but nothing herein contained shall prevent it from crossing any road in such manner as not to obstruct or impair the traveling.

§ 31. It shall be the duty of any company formed under this act to keep at their office a book subject, in office hours, to the inspection of the county court, the sheriff of the county, and each stockholder. Said book shall set forth the name of each stockholder alphabetically arranged; his place of residence, the number of shares each owns, and how much money has been paid by each into the treasury of the company. For every day any company shall fail to comply with this section, they shall forfeit and pay to the use of the county in which the road is situated fifty dollars, and be liable also for damages resulting to any party from such failure.

§ 32. If any agent, treasurer, toll-gatherer, or other person to whose possession or custody any of the moneys of such company may come, shall convert any of such moneys to his own use, he shall be deemed guilty of embezzlement; and shall be punished in the same manner and to the same extent as if he had stolen the amount so embezzled, and a neglect or refusal to pay over such upon demand, shall be deemed prima facia evidence that he has embezzled the same.

§ 33. Associations formed under the provisions of this act shall from the filing of said articles with the recorder aforesaid, be corporations known by the name they may assume in their articles of association, and except as is herein otherwise provided, shall possess the general powers, and be subject to the general restrictions and liabilities contained in an act concerning corporations, approved March 9, 1845, except that the 13th section of article first of said act shall be so far modified in its application to this act, as that a stockholder in any company formed under this act shall not be liable for more than the amount of his stock.

§ 34. The Legislature reserves the right to alter or amend this act whenever it shall be deemed conducive to the public good so to do, but such alteration or amendment shall not impair the rights of companies previously organized under this act.—This act shall be construed liberally, and shall be in force from and after its pasage.

THE GERMAN SOCIETY OF ST. LOUIS.

The emigration from Europe to America may be regarded, in many respects, as the most remarkable social movement recorded in the annals of man; and when the historian of some remote period shall review the history of the United States he will find no fact calculated, more forcibly, to illustrate the excellence of our institutions, in comparison of those of other nations, than that 300,000 emigrants, from the most civilized countries of Europe, annually left the land of their fathers and sought new homes and a better civilization within our borders.

Rome first subdued by arms, and, then, civilized her conquered subjects: we, by the excellence of our institutions, captivate the hearts of civilized men of other lands and compel them to our shores.

When the glory of Rome began to fade, the barbarous inhabitants of the north, migrating in hordes, settled in her dominions; but they came to deluge the land with blood, to pull down, trample upon, and utterly destroy the noblest monuments of civilization that the world had ever known.

The emigrants to America, though descendants of the races that overran the Roman Empire, come in the spirit of peace: they come to aid us in building up and establishing upon a broader and firmer foundation a civilization more excellent, and institutions far more glorious than were those of Rome in its palmiest days. What higher homage could we desire from other nations, or who can imagine a more flattering eulogy on the excellence of our institutions?

Oppressed by their rulers, the earlier emigrants to this country came to enjoy freedom of conscience, and, to build up and establish institutions calculated to secure the enjoyment of civil and religious liberty; and it is but reasonable that their descendants should give a cordial welcome to the people of every land who come to participate of these privileges. To the valley of the Mississippi these emigrants are especially welcome. We require the well disciplined and patient laborer, the artizan, and the capitalist of other countries to aid us in the development of our vast resources; and, for ourselves, we are truly gratified that our German citizens have formed an association calculated not only to facilitate and encourage emigration from their Fatherland but to make the emigrant, immediately upon his arrival, useful to himself and to the community.

Though situated far in the interior, St. Louis may be regarded as the principal port of debarcation for the German imigrants to the valley of the Mississippi; and it is in the power of such an association at this point to afford most important services to the new comer. Has he been maltreated during his voyage across the ocean, or, subjected to impositions in his trip up the Mississippi,

he finds a friend in the society, inteligent, willing, and capable of investigating and redressing his injuries. Does he arrive here sick, or destitute of the means of subsistence, it is the office of this society to administer to his necessities, and procure for him employment in his proper avocation.

An institution established for such generous purposes challenges the admiration and support of not only our German population but of the entire community. The inteligence, high moral character and wealth of the gentlemen named in the charter, as trustees, are a sufficient guarranty that the objects of the association will be wisely, faithfully, and efficiently carried out. And we trust that but a short time will elapse before the association will find itself able to erect an edifice suited to the benevolent purposes of its foundation; and, that it may long stand as a monument to attest the enterprise and philanthropy of its founders.

The following statistics furnished by the association for publication in the Western Journal show the nature of the objects designed to be effected by the Institution. The society has been in existence three years, and it is gratifying to observe that its usefulness has greatly increased with each succeeding year. The services rendered by the association in procuring employment for imigrants cannot be too highly appreciated; for without such assistance many of those who land with small means would become a burthen on the city, while their labor would be lost to the community as well as to themselves.

STATISTICS OF THE GERMAN SOCIETY—ORGANIZED MARCH 18, 1848 —APPOINTED AGENT, JUNE 6, 1848.

According to the records of the society, the number of German arrivals at the port of St. Louis, were as follows:

From March 18th, 1848,	to	March 18th, 1849,	near...	9,000
" " 18th, 1849,	"	" 18th, 1850,	.....	14,403
" " 18th, 1850,	"	" 18th, 1851,	.....	10,815
Total in three years			.....	34,218

Of this number about two-thirds availed themselves of the services of the society.

Employment & work was secured within the first year to				524	persons
" " " "			second do.	801	"
" " " "			third do.	1345	"
Total				2670	

At the instance, and in a small degree at the expense of the society, 296 sick persons were admitted in the hospitals;
26 indigent poor were admitted in the County Farm;
9 Idiots and Insane " " " "
121 Dead were buried, mostly at the cost of the city of St. Louis.

Homes and protection were secured for thirty-nine orphans. Medical attention and medicine were tendered and given to thirty families. Pecuniary assistance was rendered to two hundred and ninety persons, with the sum of eleven hundred and sixty four $\frac{25}{100}$ dollars. Free passage on steamboats was secured to twenty-one persons, within twelve months.

The act to incorporate the Trustees of the German Society of St. Louis, approved 1st Feb., with amendments.

WHEREAS, a benevolent Society has for several years been organized in the city of St. Louis under the name and style of the German Society of St. Louis, the object of which has been, free of charge, to assist German emigrants, by procuring employment for them if they intend to remain in St. Louis; to facilitate their journey if they desire to go into the interior; to protect them against imposition, and in case of suffering to cause collections to be made for their relief, or render them pecuniary assistance out of the funds of the society, which have been accomplished to the extent of its means through its agent, J. Reichard, and whereas those means are not adequate to meet the increasing demands upon the society, a committee of nine persons hereinafter named, have been appointed with a view to extend those means, thereby increasing the usefulness of the society. Therefore

Be it enacted by the General Assembly of the State of Missouri as follows:

§ 1. That John Wolff, Adolphe Abeles, Thomas J. Meier, Edward Eggers, Henry W. Gempp, Andrew Krug, Charles Muegge, Louis Speck, and John C. Meyer and their successors be and are hereby created, a body corporate and politic, by the name and style of "the Trustees of the German Societyof St. Louis," & by that name they may have succession, and shall be capable of suing and being sued, pleading and being impleaded, answering and being answered unto, defending and being defended, in all courts and places whatever, that they and their successors, may have a common seal, and may change, alter or break the same at their pleasure, and that they and their successors, shall be in law capable of holding, purchasing and conveying any estate, real, personal or mixed, not to exceed the sum of seventy-five thousand dollars in value, and shall hold and enjoy, in their corporate capacity all the property, real, personal or mixed which said trustees now have, or hereafter may acquire.

§ 2. That all the vacancies occurring in said board of trustees within the period of five years shall be filled by the remaining members, by and with the consent and advice of the German Society, and after that period, the said board of trustees shall be elected every two years, by the members of said German society, in a meeting called for that purpose.

§ 3. Said society shall have power to organize, and pass such by-laws and rules not repugnant to the constitution and laws of the State so as to carry out the benevolent objects of said society. All persons of good character may become members of said German society by paying the monthly dues of twenty-five cents, but no member shall be compelled to pay his dues, his name may however be stricken off the list of members.

§4. The said board of trustees shall invest the property or funds, exceeding three hundred dollars, allowed for incidental expenses of the board per annum, in public stocks of the United States or individual States of the Union, or the counties or cities of this State, and these stocks shall not be transferable or negociable until the aggregate sum shall amount to seventy-five thousand dollars if it be found that twenty-five thousand dollars be not sufficient for the hall or building, except such bonds as shall be called in by the maker, and then a committee of not less than three members shall be appointed by the board to make reinvestment of the money in stock of equal value. The stock shall if possible bear at least six per cent. per annum, and the interest shall be invested as the original funds and shall be equally inviolate.

§ 5. That the property and the funds acquired by said trustees, may when the same amounts to twenty-five thousand dollars, and shall when the same amounts to seventy-five thousand dollars be invested in a hall or building the net income and rents of which, only, shall be appropriated and belong exclusively to the use of the said German society, to be expended in promoting the benevolent objects of said society, reserving however therefrom so much as shall be required to meet the necessary expenses and repairs, not to exceed five per centum per annum upon the investment.

§ 6. That the lot of ground upon which said hall or building shall be erected shall be held by said trustees and their successors for ever, for the sole use and benefit of said society, and shall never be mortgaged or encumbered with debt of any kind.

§ 7. Two thirds of the board of trustees shall constitute a quorum competent to transact the business of the corporation; they shall have power to make all necessary by-laws, rules and regulations for their government, not repugnant to the constitution and the laws of the State.

§ 8. The board of trustees shall report progress to the German society at the annual meeting of the said German society, and lay before them a detailed statement of income and expenditure.

§ 9. The corporation hereby created shall faithfully fulfil the objects of its creation, but the General Assembly whenever satisfied that it has failed to accomplish these objects, or has violated its charter, may alter or repeal the same.

A DAY ON THE CANADIAN RIVER.

AN EXTRACT FROM NOTES OF THE EXPLORING EXPEDITION OF 1845.

BY ISAAC J. COOPER.

"A day's adventures seldom fail,
If truly told with all detail,
To give an idea quite exact,
To any one that's *matter-of-fact.*"
HUDIBRAS IN YORK.

Like all the streams of this sandy and fragile region, the Canadian or the Rio Rojo, as the Spaniards formerly miscalled it, pursues the greater portion of its route towards the Arkansas, between two immense banks or barriers of sand, gravel and limestone, which in many places assume the pleasing appearance of sloping hills and mounds, whilst in others they mount up abruptly to a great higth: as at the *Grand Canones*; where the river flows through a narrow channel, between walls of rock at some places over four hundred feet perpendicular.

Though these rude barriers often closed in upon and prevented us from passing between them and the river, yet as we journied onward, they now and then receded and left small bottoms and sandbars covered with thick growths of cottonwood and wild grape.

Finding it convenient, at times, to make a road of the dry channel, we had crossed it but a few days since as dryshod as the Israelites in their passage of the Red Sea; but now, the water was several feet deep, though occupying but a confined space;—thus compelling us to follow the deviations of the numerous irregularities, which broke the symmetry of the northern bank.

Our camp had been pitched in a little cottonwood bottom like those I have mentioned, and notwithstanding the heat of the preceeding days a searching breeze which blew over the river during the night, caused us to greet with pleasure the cheering beams of the morning sun.

Mounting the hill top above camp, we cast a last look at the bottom below, just in time to perceive two mounted warriors ride into it in search of plunder. Their search proved unsatisfactory however, for we had left nothing of value, except a worn out ox,

which had insisted upon accompanying us thus far from the Santa Fe trail. After despatching him with a few arrows, we beheld our bashful visitors recross the river towards the south, and scour away over the distant prairie until lost in the rays of the morning sun which already danced upon the heated ground.

We attained the high land which stretched out towards the north, unbroken and desolate farther than the eye could reach, and followed a route parallel to that of the Canadian.

In our attempt to remain as close as possible to this exceedingly tortuitous river, we were frequently compelled by the huge and impassable ravines or hollows to extend our travels far out into the prairie, ere a point could be attained where a passage was at all practicable. Frequently in such cases, we found no crossing between the mouth of the chasm and its head in the far off prairie.

After rounding such difficulties as these, and again reaching the river bank, it would not be many miles ere another would present itself under similar circumstances and require a similar proceeding to overcome it.

Thus we traveled on, along the northern bank, though now and then for the sake of variety a little bottom or valley near the river, of easy access, and allowing a passage, tempted us to descend the rough hills, and vary the monotony of our route by a brief ride through its sparse orchards of wild grape and hackberry. Many of the valleys which broke into the river, along this day's journey, were well wooded with undergrowth, and the bare hills in many places, strewn with numerous petrifactions of fallen trees, frequently of good size, indicated a once well-wooded region. Many of the fossil trunks as they lay upon the ground, measuring twenty and thirty feet in length and eighteen or twenty inches in diameter. Numerous large stumps, petrified also, stood around, and had they not been of stone, we would have looked for the woodman who had been felling the forest.

About noon our progress was suddenly checked by a lofty wall or barrier of flint, several hundred feet in higth, the base of which was washed by the red waves of the River, and its summit crowned with a rough growth of dwarf cedar. Here was a dilemma: We could either attempt the crossing of the Canadian, and try our luck again upon its southern bank,—or return by the way we had come and extend our peregrinations around the heads of several lenghty bottoms of the character before mentioned.

As the River was of more than usual depth, being more confined, —and the prospect on its opposite shore anything but inviting, we were on the point of adopting the latter alternative, when the quick report of several fire arms, with a few Indian yells as an accompaniment, drew our attention to a suspicious looking group of horsemen posted on the opposite heights.

After this salute, they descended the hills with an adroitness little to be expected from *prairie* Indians, and crossing the river

at a ford known to themselves, rode towards us with all the *sang froid* of old acquaintances. They numbered but 8 or 10, and evinced more boldness in thus coming up to our troupe, than is generally to be found in this *debateable land.* For we were now in what is called the *Great Pawnee War Ground;* though as far as the Pawnees are concerned, every other nation within five hundred miles considers their right to roam and fight upon its broad expanse equal to that of the Pawnees: and not only the equestrian Camanche and Kioway,—but the cannibal Tenian tribes,—the murderous Apaches,—the politic Arapahoes and Chiennes,—the overbearing and treacherous Grosventres and frequently the Osages and cunning Caws or Kanzas roam at intervals over its desert-like bosom, like privateers of different nations, on some great sea, in search of scalps and plunder.

The present party of privateersmen were of no hostile order, however; on the contrary, I never saw a more good natured looking old fellow than the head man or chief, who rode up to us at the head of his troupe, shaking hands all around like an acquaintance of "*Auld lang syne*" and grinning with all the salisfaction of a perfect connoisseur of good jokes. I did not set him down, as a full blooded savage, for his laugh was far too genuine, his manners a little too free for a natural Indian, and his features shewed too much of the *northern Mexican.* In his troupe were several full blooded Mexicans armed and accoutred like the balance, and it was humiliating to the civilized eye to behold them thus degraded.

This was a novel spectacle to some, but before our travels were over, we found many *females* as well as men and children, retained as captives among the Kioway and Camanche Indians, until time has reconciled them to their fate and made them savages like their captors.

The squaw of Old Soldier, one of the principal Kioway chiefs, was a pretty Mexican girl of twenty or thereabouts, captured by him several years since in a foray on some Hacienda between Chihuahua and Santa Fe. She retains many of her civilized manners and the "*muchas gracias*" which she rendered for a cup of hot coffee, which passed neglected around the circle of Kioway beauties, sounded in a tone of half-regret for her native home and friends. But I digress.

The merry old chieftain, whose sides shook when he laughed, as though they were made of choice bits of buffaloe meat, after being informed of our desire to explore his country, informed us of what we knew already; that he was very glad to see his friends, and though apparently puzzled to account for our great desire to see such scenes as the country presented, informed us that he could pilot us by a near route to the top of the barrier before us.

He also informed us during the course of his interesting conversation of signs, grunts and numerous broad grins, that the greater portion of the Kioway chivalry had gone down into Mexico, to steal as many horses and mules as they possibly could; all in the way

of amusement. Any one would have supposed, from the good-humoured way in which the old sinner gave us this gratifying piece of intelligence, that he considered it the best of jokes.

Our Caballada was soon in motion again, and with the old joker for a pilot, and his troupe as an escort we entered a deep gorge, along the centre of which, curled the dry channel of a small ravine choked up with huge rocks fallen from the higths above, and shaded by groves of hackberry and thickets of grapevines. After toiling on through these places, for some time we reached the base of a steep hill, up whose almost perpendicular sides, our inestimable pilot *funnily* informed us, lay our route, gazing at our waggons with one of his contagious broad-grins, as though he were well aware of having perpetrated a *good 'un*. We pocketed the joke, if it *was* a dry one, and commenced pulling, pushing and swearing our waggons up the hill, whilst our red skinned Joe Miller pocketed the dry tobacco we gave him and with his party disappeared in the valley. After thus reaching the higland again, we travelled but a short distance over the flinty country ere another deep gorge obstructed our path and called for another deviation at right angles with the river's course.

It was nearly sunset when we attained the head of this hollow, distant some six or seven miles from the Canadian. Here, a couple of dead cottonwood trees lifted their withered boughs above the solitude, and a small quantity of water had collected in the rock at their roots. Here we camped for the night. The two trees supplied us with fuel and the rock with water.

Our tents and waggons were usually so placed as to form a kind of Coral or circle, within which we picketted our animals at night: but the present camp being in the edge of a deep hollow we pitched our tents in a semi-circle and left the other side to be protected by the defenses which nature had prepared beforehand.

The men were unusually merry and cheerful this evening and many a jovial tale and song went round whilst the meat and coffee boiled and baked upon the blazing fires. The Sindbads of the company, seemed to have drawn their inspiration from the beautiful moon which cast a pale light over the prairie, for they spun their wonderful yarns to interminable lengths, and until a late hour little knots of these story tellers and songsters, chatted and laughed around the several fires with all the glee of those who sat at the fireside of home. Finally the last story was told,—the last song was sung and the last reveller had sought his tent to wrap his body and cares in his mackinaw planket and lay his troubled head upon his soft Spanish saddle, to dream of bolsters and featherbeds if not of wealth and glory. The Guard alone, with his trusty rifle paced to and fro, with his measured step,—the mules and horses cropped the short buffaloe grass in silence, whilst the bright moon like the ball of some far off cathedral loomed through the fleecy clouds in all her purity and brightness.

"Turn out! Turn out!" shouted the guard about midnight,—and a simultaneous rush was made by the aroused camp with their guns and pistols.

In bold relief, between us and the clear sky beyond, stood a large party of mounted Indians, on the summit of a neighboring swell in the prairie not two hundred yards distant.

They stood but for a moment; for the noise of our camp, the hurrying to and fro of the men and the braying of the mules, caused their dark forms to disappear as rapidly as they came. They were doubtless on our trail, and had, in the keenness of their pursuit, forgotten their usual caution and come upon our camp before they were aware of its locality.

At their first appearance they were talking and laughing loudly and had exposed their whole force to view. "I'd like to try a shot at one of them fellows," was the careless remark of a comrade near me as he took the cap from his rifle, preparatory to returning to his tent, "It would 'a put a stop to some of their jokes, that's sartain."

No doubt but that it would; but like most of the thoughtless and wanton acts of emigrants and travelers through the Indian territories, it would certainly have engendered a bitter prejudice and caused some bloody act of retaliation. This is the law which the savage seems to hold most sacred, and though a scalp for a scalp, or even two for one, sounds oddly as a transcript for "an eye for an eye," yet the wild Indian in his barbarism looks upon it as the principal foundation and bulwark of his entire system of jurisprudence and religion.

In twenty minutes after the alarm, the camp of explorers was again wrapped in sleep; perfectly dead to glory, whilst even the unfortunate guard as he walked his rounds, became infected with the dreamy contagion which reigned around, and rubbed his heavy eyes in vain to discover, why and wherefore sundry mules choose to become alarmed and force their pickets and halters.

Morning came at last to cheer the sleepy guard,—and again the coffee-pots and camp-kettles boiled and simmered merrily on the fires of dry cottonwood and *bois-de-vache.*

The prairie presented the bleak and desolate appearance of yesterday, and though a merry party had been near us, the night previous, not a sign, not even a feather or a shell was to be seen of it now. The plain presented the appearance of some newly created region spread out before us in its pristine garb, long before the wants of men called for a change upon its monotonous surface, or the necessity of animals required vegetation from its bosom.

An arid, dreary land of sand and gravel,—a debateable ground between vegetation and eternal barrenness,—an arena for numerous tribes of fierce savages, and a perfect Arabia for valiant crusaders armed in the panoply of enlightened truth to contend against the arrow and lance of the heathen Bedouins who skim like antelopes over its broad bosom, untaught, untamed, uncivilized and uncon-

quered. The present party of Bedouins however were uncommonly bashful; for though they paid us a visit at the dead of night, they seemed quite unwilling to be seen in the light of day: not an Indian could be discovered.

Just as we began to give up all hopes of beholding our worthy visitors, and had commenced to pack up for a start, the sight of an Indian's head above a distant knoll, betokened their whereabouts; our flag of truce, an old musquito bar, was hoisted on a tent pole, and its glorious stripes unfurled to the morning breeze.

This was sufficient; every knoll and hollow around seemed alive in a moment and a host of mounted warriors, painted and equipped with bells, feathers and fringes, and all armed with fusils, lances, and bows, galloped into our camp shouting "Amigo, Kioway!"

Like the enchanted squadrons of Boabdil called forth from the bowels of Grenada by the great necromancer, no sooner was the old musquito bar waved in the air, than every flint hill around seemed to pour forth its bands of mounted Indians, to greet the strangers who travelled over their bleak dominions.

Our copperskinned acquaintances rode around the camp, shaking hands as usual and exclaiming "*Amigos*" and "*Kioway*!" apparently very much overjoyed to see us and particularly fond of tobacco.

Unsaddling their horses and turning them loose in our Caballada, they sat down in a circle and after a general smoke of cigarritos, the usual preliminary in "these parts," they undertook to inform us and themselves of each other respectively, by means of the usual signs and grunts which serve as a general alphabet among most of the Prairie tribes.

We learned that their village was some eight or ten miles to the north on a small stream of good water, and that the greater portion of their young men had gone down into Mexico on a mule hunt. Also that they had been alarmed by the wonderful accounts of some straggling buffaloe eating Camanches, who had seen us *en route* across the prairie several days previous and had reported us as several thousand Texians invading the country.

They had been following our trail several days, under the impression that we were Texians, and had come upon our camp unexpectedly last night, as they did not think of a large party like ours camping at such a place. They had smoked a long time behind a butte on the subject of running off our animals, which, by the way, could scarcely *trot*, much less run, and had finally come to the sensible conclusion of first finding out who we were; as it was very far from their intentions (honest souls) to injure Americans. For this purpose they despatched several of their most adroit spies and boldest warriors, to approach our camp and see what was to be seen.

One of these, a tall, gaunt savage, had crawled along the chasm, and ascended on that side within a distance of ten feet of several men sleeping on the outside of a tent by the fire. Seeing one of

them, awakening from his sleep, he aimed his fusil at his head with the humane intention of shooting him, but hesitating a moment, the sleeper awoke and turned his features towards fire, discovering the face of a favorite trader and an old acquaintance. It was Hatcher, our pilot, who had travelled in this country in the employ of Bent, previous to the abandonment of the old blockhouse, and who had thus become known among the Kioways. The Indian's heart told him it was wrong to shoot, for Hatcher was a friend and an American and no Texian. As a proof of these statements, the spy who had thus signalized himself pointed to a small pyramid of flints which he had erected during his nocturnal visit on the edge of the gorge, within a few yards of the very spot where Hatcher and several others had slept.

Everything being thus explained to our satisfaction and our red brethren informed of our purpose in traveling through their country, a present of tobacco was made them and an invitation tendered to a cold breakfast.

Though it smacks much of bad manners to criticise the actions of guests whom one invites to his table, I cannot refrain from mentioning at this place, the existence of a certain custom among these tribes, in which, in addition to its originality, is so handy and ingenious, that it would certainly elicit praise from the polite Count D'Orsay himself.

This is no less than that of using their thumb and fingers, (I had almost added *toes*,) in the demolition of the various viands placed before them.

Though we ourselves, had practised for several months, on the butcher-knife and tin-cup, we were not prepared to behold a process of this description gone through with in a manner so perfectly scientific as was done at this same Kioway breakfast.

Being much opposed to the innovation of plates, dishes and all that sort of thing,—one took the pan of bread,—another seized the meat tray,—a third attempted the destruction of an entire dish of rice and molasses, and whilst a fourth was puzzling himself as to the best means of disposing of the salt and pepper pots,—the fith scalded himself in the vain effort to swallow the coffee.

The balance who had been unfortunate at grabbing looked on without a groan, and patiently waited their time; though every one who had been so fortunate to secure anything, considered himself in duty bound to demolish every particle thereof.

This was a fortunate sequel to the night's adventures, and it was good that it happened so:—for a drowsy guard and a dark night had been in the right for once. There was more coffee drank than *blood shed* and our Kioway friends, instead of running off our half starved mules and scalping *us*, generously invited us to their village on Beaver creek, and proffered their own invaluable services as pilots.

Saint Louis, *January*, 1851.

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